DVTel CM-3211-00 Indoor Dome Camera User & Installation Guide

Instructions for installing and making configurations to the DVTel CM-3211-00 IP Indoor Dome Camera.

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1 Overview

The DVTel CM-3211-00 IP Indoor Dome Camera provides real-time H.264 multi-streaming at the highest image quality.

With its compact, sophisticated mechanical design and snap-in camera chassis, the DVTel CM-3211-00 IP Indoor Dome Camera is easily installed and aesthetic.

Important: If you are using DVTel Latitude, it is recommended that you make configurations to the cameras settings primarily via the AdminCenter rather than via the camera's web based interface of the camera which might be overwritten by Latitude settings. Refer to the Latitude online help for information regarding configuring the settings of the camera.

Related Links

Features

Package Contents

1.1 Features

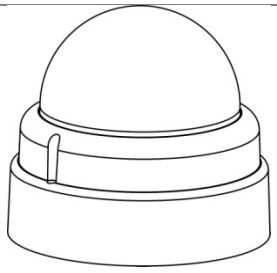
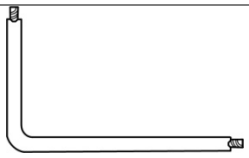
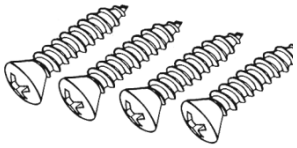
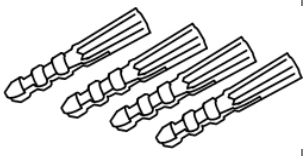
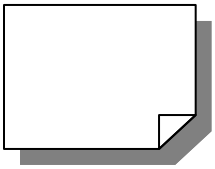
The following are highlighted features of the DVTel CM-3211-00 IP Indoor Dome Camera:

- Progressive Scan CMOS Sensor
- H.264 and MJPEG compression
- Motion Detection with Region Of Interest Masking
- Privacy Masks
- WDR & ATW
- 3DNR Image Noise Reduction
- Electronic Day/Night
- Micro SD recording support
- Fulltime BNC analog output
- ONVIF Support
- Analog Video output
- Supports PoE / 12VDC / 24VAC
- (Edge) Motion Detection
- Multiple Users
- RTSP Support
- Security IP Restricted Access Allow/Deny List
- Built in Web Application/Web Server
- Group Permissions
- HTTP Streaming MPEG
- SNMP v1/v2/SNMP Traps
- Per User Permissions
- E-Mail SNTP Alarm Notification (up to 2 emails)
- FTP upload (up to 2 locations)
- Dual HTTP Notification Server support (up to 2 servers)
- Detection Event Driven Alarms
- Alarm Input Driven Events
- Relay Output Actions on Alarm
- Send images on Alarm to Email
- Upload Alarm Images to FTP
- Record Snapshots to SD Card on Alarm
- Sequential snapshot numbering
- UpNp Support
- Historical motion-Detection levels detected and recorded at frame levels.
- Tampering Detection and Notification
- Two encoder streams available
- Low Lux

1.2 Package Contents

Please check the package contains the following items listed below.

Indoor Camera Package Contents

 CM-3211-00	DC Jack Cable	
Power Terminal Block	 star-bit tool (Torx wrench)	
 Self Tapping Screws (×4)	 Plastic Screw Anchors (×4)	Rubber Washers (×6)
CD (bundled software and documentation)	 Quick Start Guide	

2 Introduction of the CM-3211-00 IP Dome Camera

This chapter will provide the camera dimensions for reference before installation. Definition of each connector on the camera's PCB board will also be specified.

Related Links

CM-3211-00 Camera Dimensions

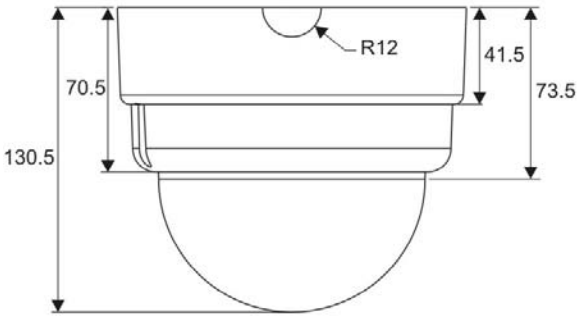
Camera's Connectors

Appendix A: Technical Specifications

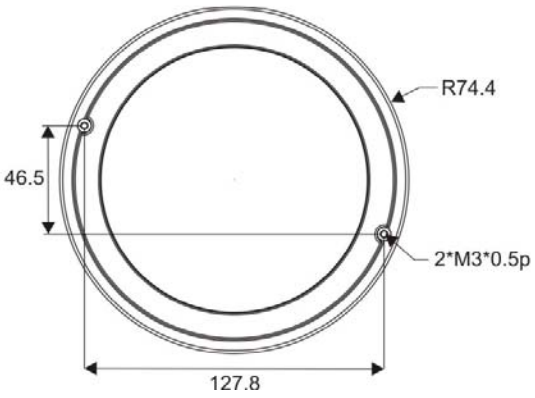
2.1 CM-3211-00 Camera Dimensions

The DVTel CM-3211-00 IP Indoor Dome Camera's dimensions are shown below.

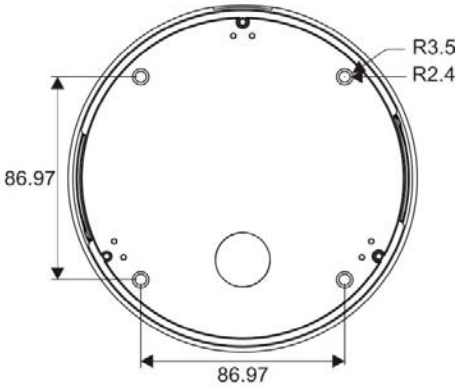
Front View



Top View



Bottom View

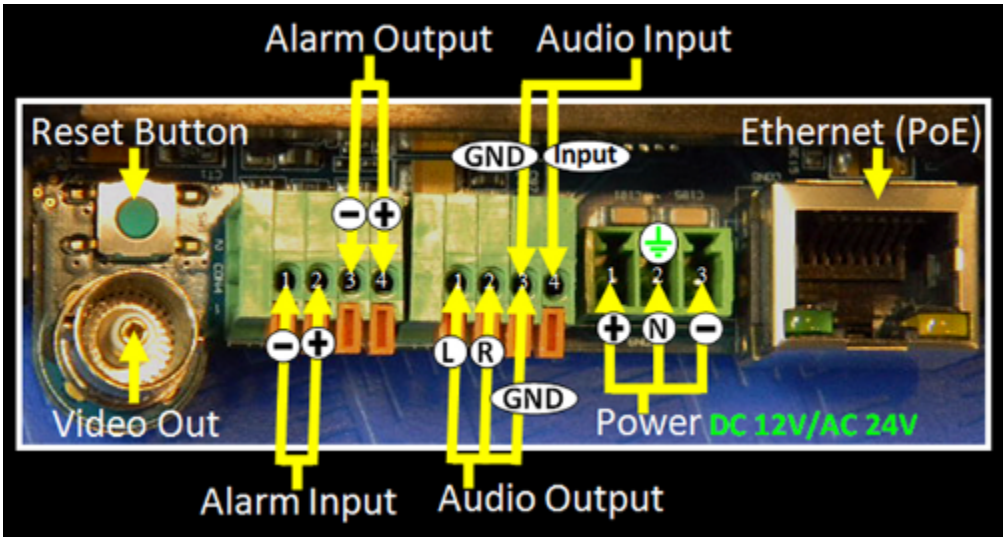


Related Link

Appendix A: Technical Specifications

2.2 Camera's Connectors

The diagram below shows the CM-3211-00's reset button and various connectors. Definition for each connector will be given as follows.



Connector		Pin No.	Definition	Remarks
Reset Button		-	Restore to factory default	
BNC		-	Analog Video Output	
Alarm I/O		1	GND (Input－)	Alarm connection
		2	Input＋	
		3	Output－	
		4	Output＋	
Audio I/O		1	Output (L)	Two-way audio transmission
		2	Output (R)	
		3	GND	
		4	Input	
Power	**DC 12V**	1	Power	Power connection
		2	Reserved	
		3	GND	
	AC 24V	1	Power-1	
		2	Earth GND	
		3	Power-2	
RJ-45		-	10/100 Mbps Ethernet / PoE	

3 System Requirements

To access the IP Camera via a web browser, please ensure your PC has the proper network connection, and meets system requirements as described below.

Items	System Requirement
Personal Computer	1. Intel® Pentium® M, 2.16 GHz or Intel® Core™2 Duo, 2.0 GHz 2. 2 GB RAM or more
Operating System	Windows VISTA or Windows XP
Web Browser	Microsoft Internet Explorer 6.0 or later Firefox Chrome Safari
Network Card	10Base-T (10 Mbps) or 100Base-TX (100 Mbps) operation
Viewer	ActiveX control plug-in for Microsoft IE

4 Indoor Installation

Please read the instructions provided in this chapter thoroughly before installing the DVTel CM-3211-00 IP Indoor Dome Camera.

The following are additional consideration for an indoor installation.

- There must be a fuse or breaker at the starting point of the electrical wiring infrastructure.
- For indoor installations, such as industrial applications, the CM-3211-00 must be protected from elements, such as damaging fumes, metallic dust, extreme temperatures, soot, moisture, over spray, etc.
- CM-3211-00 cameras should not be placed near or on radiators and heat sources.
- All electrical work must be performed in accordance with local regulatory requirements.

Related Links

Power and Ethernet Cable Connection

Camera Initial Configuration

Remove the Base Plate

Mounting the Altitude CM-3211-00 IP Indoor Dome Camera

Adjusting and Framing Up the Camera View

4.1 Power and Ethernet Cable Connection

Power Connection

Make sure the camera's power cable is properly connected; refer to the pin definition table in section Camera's Connectors. If using Power over Ethernet (PoE), make sure Power Sourcing Equipment (PSE) is available on the connected network.

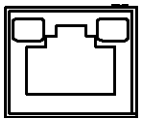
All electrical work must be performed in accordance with local regulatory requirements.

Ethernet Cable Connection

Use of Category 5 Ethernet cable is recommended for network connection; to have best transmission quality, cable length shall not exceed 100 meters. Connect one end of the Ethernet cable to the RJ-45 connector of the CM-3211-00 camera, and the other end of the cable to the network switch or PC.

NOTE: You can use an Ethernet crossover cable when connecting the CM-3211-00 directly to the PC.

Check the status of the link indicator and activity indicator LEDs; if the LEDs are unlit, please check LAN connection.

	Green Link Light indicates good network connection. Orange Activity Light flashes for network activity indication.

4.2 Camera Initial Configuration

To Make the Camera Initial Configuration

1.) Unscrew the Dome Cover using the star-bit tool supplied and remove it.

2.) Plug the CAT5 cable into the camera Ethernet port and if the network doesn't provide PoE 802.3af, wire a properly rated AC 24V/DC 12V power supply into the terminal-block plug and plug it into the power terminals. See polarity noted in HD Series Connections image.

3.) Do one of the following:

- Copy and run the DeviceSearch.exe from the included CD.
- From the Latitude Sidebar, run the Unified Configurator by selecting **Applications ▶ Device Configuration Tool** and then on the Unified Configurator screen, click **DVTel HD Series**.

4.) In the DeviceSearch application, click **Device Search** and do the following:

a.) In the search results, click on the camera to select it.

b.) Right-click and select from the shortcut menu **Network Setup**.

c.) In the dialog that appears, select **Static IP**

d.) Enter the **IP Address**, **Gateway** and **Netmask** (network mask) as needed and click **OK**.

5.) Disconnect the Ethernet cable and if you are using a power supply, turn off the power to the power supply and unplug it.
The camera is ready for deployment in a site installation (mounting).

Note: The camera can be connected to a PC for bench installation via an Ethernet cross-cable.

Note: The camera default IP Address is 192.168.0.250 and default subnet mask is 255.255.255.0.

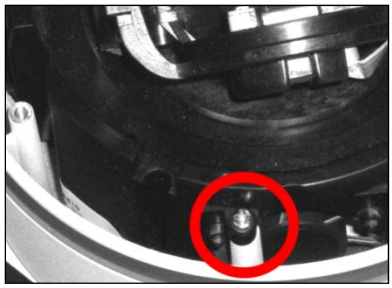
Tip: A camera setup adapter, such as *Veracity Pinpoint*, can be used to connect a laptop directly to the camera when using POE.

4.3 Remove the Base Plate

1.) If you have not already removed the Dome Cover, unscrew and remove it using the star-bit tool supplied with the camera.

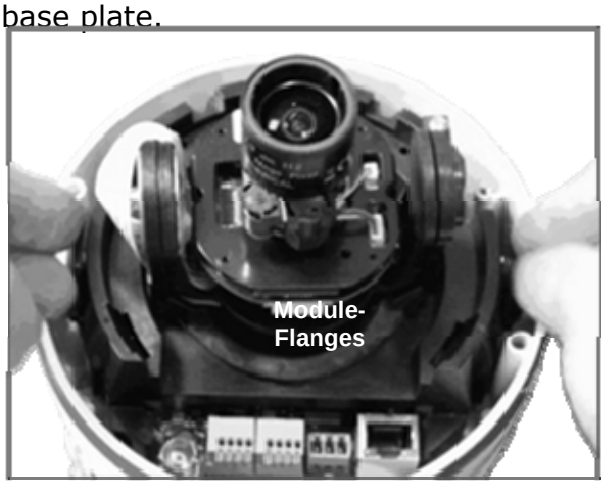
2.) Press Inner cover sides inward and remove the cover.

3.) Unscrew the module-fastening screw.



Caution: The CM-3211-00 is an indoor CM camera and should be kept in a clean and dry indoor environment. Operating temperature should be maintained within -10°C~50°C. Operating humidity 10% to 90% (non-condensing). The camera should be kept dry, free from water condensation, dust, dirt, and smoke.

4.) Press in the camera module flanges to unsnap the camera module from the base plate.



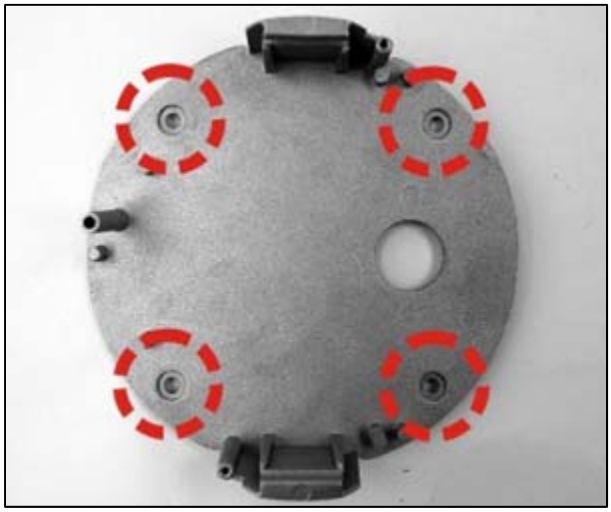
4.4 Mounting the Altitude CM-3211-00 IP Indoor Dome Camera

1.) Do one of the following:

- For drilled wall or ceiling mounting:

  a.) Use a pointed pencil and the base plate as a template to mark the mounting surface through the plate holes where the four screw holes will need to be drilled.

  Important: Before marking and drilling the holes, assure the base plate alignment is oriented correctly that the needed camera field of view can be achieved when all is assembled.



  b.) In the marked locations, drill each hole using a drill-bit of a slightly smaller diameter than the supplied screw anchors (molly-plug anchor). You want to achieve a snug insertion so that the plug expansion holds firm after the screws are screwed in.

  c.) Fully insert the supplied anchors into drilled holes.
  (You may need to tap them flush with the wall using a finishing hammer.)

- For installing on a 4S Recessed Electrical Box

  a.) Have a qualified installer (check your local electrical codes) rough-in the 4S Recessed Electrical box and run the wires and power (if not PoE) through the wall/conduits to the box location.

  b.) Assure that the box in sufficiently sturdy (attach to the wall stud, ceiling joist or reinforced surface as needed) to hold securely the weight of the camera.

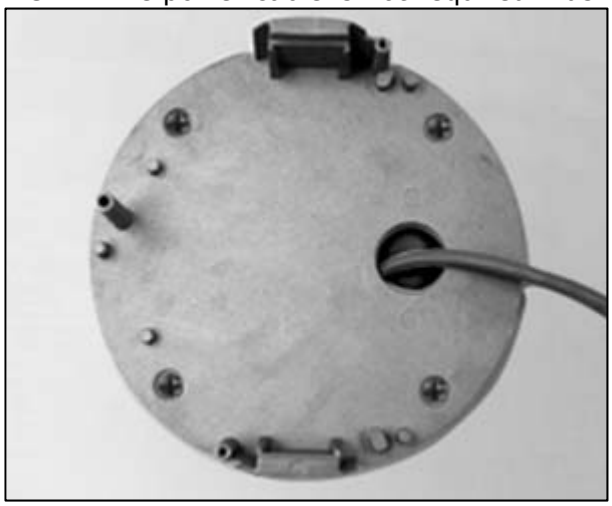
- For bracket, pole and pendant installations:

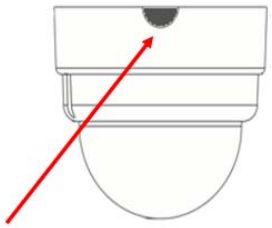
  - Follow the hanging device installation instructions.

2.) If running the cables trough the back, thread the power and Ethernet cables and any other wires, such as a relay output, alarm input, audio in or audio out, through the back wire entry. If you are not wiring from within the wall, you can run the wires through the slot on the side of the dome. Punch out the half circle slot and run the wires through this slot.

Tip: Even if you are not using alarm inputs and audio input/output at the time of installation, you may want to consider pre-wiring these connections for future use.

NOTE: The power cable is not required if using PoE.





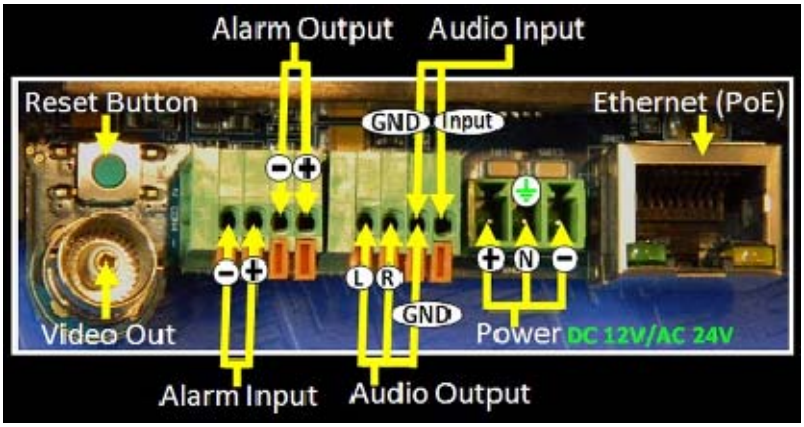
3.) Thread the wires through the base plate and screw it to the predrilled wall, ceiling, CM Series Mini Dome Recessed Mount, CM Series Mini Dome Corner Mount, or 4S electrical box.
Check that the installation is not flimsy, will not wobble, and is flush with the mounting surface.

Tip: Use shims for shoring up mounts on uneven surfaces.

4.) Snap the camera module back on the base plate with the wiring threaded through the gap at the module base and then screw in the module-fastening screw.

5.) Plug the CAT5 cable into the camera Ethernet port and if needed plug the power terminal block plug it into the power terminals.

6.) If applicable, wire the Alarm In, Alarm Out, Audio In and Audio Out terminal blocks to external devices.



HD Series Connections

7.) If needed, connect the other end of the CAT5 cable to the network and turn on the power from the power supply.

Note: Do not reassemble the camera Inner Cover and Dome Cover until after hardware configurations and lens adjustments are made.

4.5 Adjusting and Framing Up the Camera View

Once you have the camera attached to the network and running, you will want to frame up the scene and adjust the camera settings to optimize the picture for your individual scenes. If you are using Latitude, you may consider scheduling different settings for changing ambient conditions throughout the day, week, month or seasons.

To Adjust and Frame-Up the Camera View

1.) In the DeviceSearch application, click **Device Search** and in the results click to select the camera, right-click to open the shortcut menu and select **Browse**.
-OR-
Enter the camera's IP as a URL in a web browser.

2.) When the Internet browser connects to the camera and prompts for login, do the following:

a.) Log in using the default user name "**Admin**" and password "**1234**".

b.) Allow the ActiveX to download and choose to install the DVTel Web Player.

3.) On the camera, loosen the screw on tensioning collar of the camera tilt axis.

4.) On the camera, adjust the camera rotation, pan and tilt angles as required for the desired view of the scene. When finished, retighten the tilt-arm tension screw.

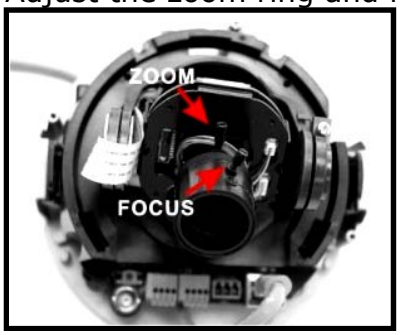
Caution: To prevent camera damage, do not over extend the tilt range beyond -10° to 90°.

Tip: To view greater image detail for more accurate high-definition focusing, on the Web Base Viewer homepage click and use the full screen view for checking adjustments.

IMPORTANT: Best focusing results can be achieved when the lens Iris is fully open (such as at night in low light). This prevents loss of sharpness in sharpness if light levels are reduced at night.

To achieve this during the day, in the *Web Base Viewer* go to the **Camera ▶ Exposure** screen and select from the **Exposure Setting** menu **Auto-shutter** mode. Save changes and complete the focusing steps. When finished, restore your Exposure settings as needed.

5.) Adjust the zoom ring and focus ring, for your scene.



6.) Replace the camera Inner Cover

7.) Replace the Dome Cover and screw.

5 Searching and Accessing Camera – Device Search

You will need to make the camera accessible for your network addressing.

For initial access to the IP Camera, you can do either of the following to

Access the Device Search in order to search and configure the camera's network settings:

- If you have an AdminCenter from DVTel Latitude, you can access the Device Configuration Tool (Unified Configurator) from the Applications menu and then click the DVTel HD Series button.
- You can run the DeviceSearch.exe, which can be found in "DeviceSearch" folder in the supplied CD.

The Device Search provides a central location for listing all the DVTel CM and CF camera models accessible over the network. Once listed you can right click on each and access and change the network settings.

Once the network settings are change you can search again to relist the units and then configure the units via the web interface.

If you are working with DVTel Latitude, you will want to configure the unit with a static IP rather than with DHCP to assure the IP address will not automatically change in the future and interfere with configurations and communication.

Installing DVTel Web Player Software Online

For the initial access to the IP Camera, a client program, DVTel Web Player, will prompt for installing to your PC when connecting to the IP Camera.

If the Web browser doesn't allow DVTel Web Player installation, please check the Internet security settings or ActiveX controls and plug-ins settings (see Appendix B: Internet Security Settings) to continue the process.

Important: For users who have installed the DVTel Web Player (DC Viewer) in the PC previously, please first delete the existing DC Viewer from the PC before accessing to the IP Camera. For information on how to uninstall and clear Temporary Internet Files, see Deleting the Existing DC Viewer.

To configure the communication settings of the CM-3211-00 camera

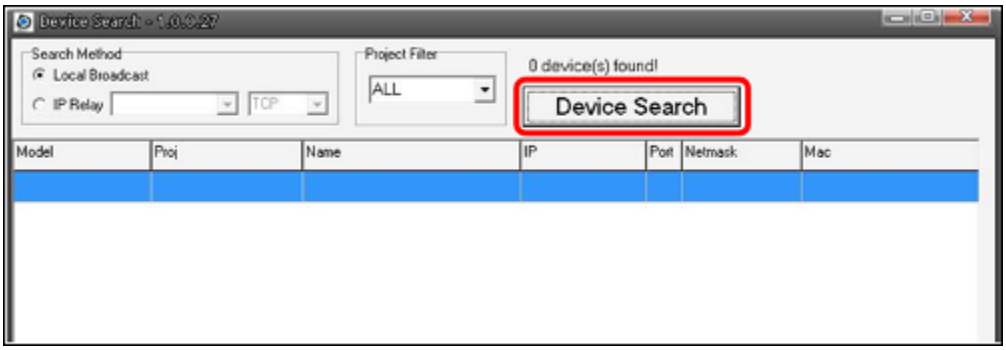
1.) Connect the CM-3211-00 camera to the network on the same VLAN/LAN as the workstation. (You can use a cross cable to connect it to the machine directly).

2.) If your network supports the default Open the DeviceSearch by doing one of the following:

a.) If you have an AdminCenter from DVTel Latitude, you can access the Device Configuration Tool (Unified Configurator) from the Applications menu and then click the DVTel HD Series button.

b.) Run the DeviceSearch.exe, (From "DeviceSearch" folder in the supplied CD).

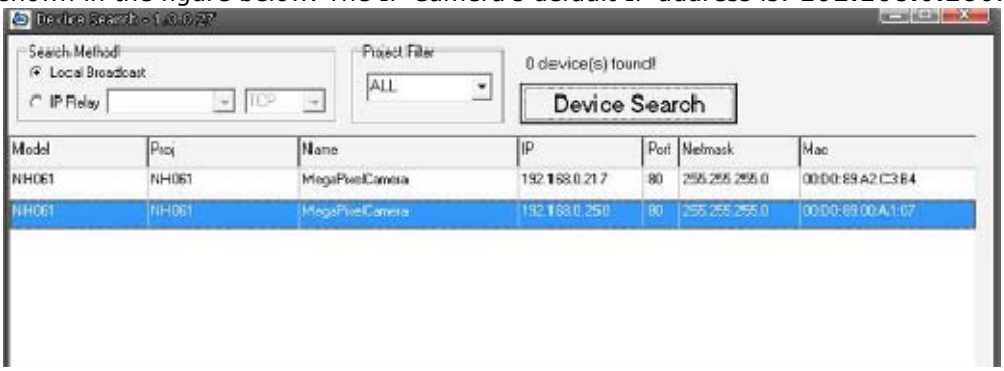
3.) In the Device Search application, click the "Device Search" button.



4.) If you have not disabled the Windows Firewall, a security alert window will pop up. Do the following:

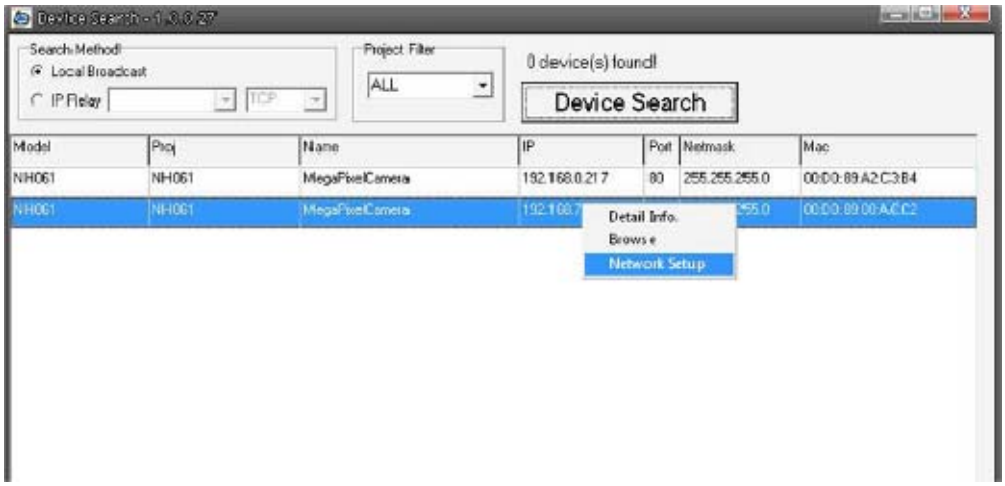
a.) Click "**Unblock**" to continue. (For Latitude users you should consult the Latitude Installation Instructions on disabling the Windows Firewall.)

b.) Click "**Device Search**" again, and all the finding IP devices will be listed in the page, as shown in the figure below. The IP Camera's default IP address is: **192.168.0.250**.



5.) Right-click on the IP Camera that you would like to change its network property and from the menu that opens, select "**Network Setup**."

Tip: record the IP Camera's MAC address, for future identification.)



The "Network Setup" dialog displays.

6.) Do the one of the following:

For DHCP (*not supported by Latitude*)

a.) Select "**DHCP**" (Do not use for Latitude.)

b.) Click "**Apply**", when prompted with instructions to search again after one minute, click **OK.**

c.) After a minute click "**Device Search**".

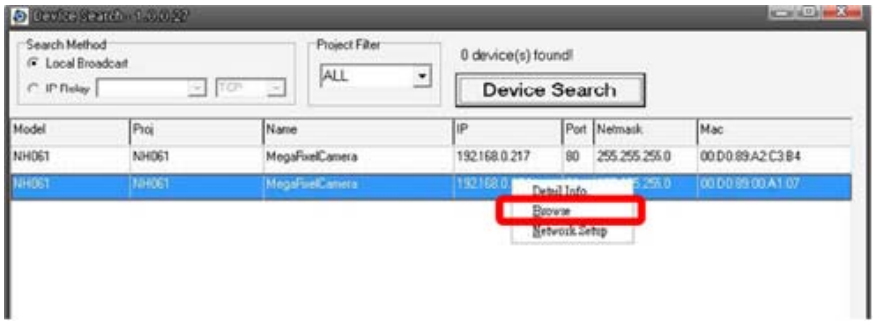
For Static IP (Recommended for Latitude users)

a.) Select **Static IP** (preferable for security and Latitude users) and in the IP Address, Gateway, Netmask enter the respective values for your LAN/VLAN. (Optional DNS)

b.) Click "**Apply**", when prompted with instructions to search again after one minute, click **OK**

c.) After a minute click "**Device Search**".
The communication settings should now be changed and ready for you to install the CM-3211-00 camera on the network and access it either via the Browser-based Viewer or Latitude NVMS.

7.) Right-click and select "**Browse**" to access the camera directly via web browser.



The default web browser opens and requests access to the camera IP.

8.) When the web browser contacts the camera IP do the following:

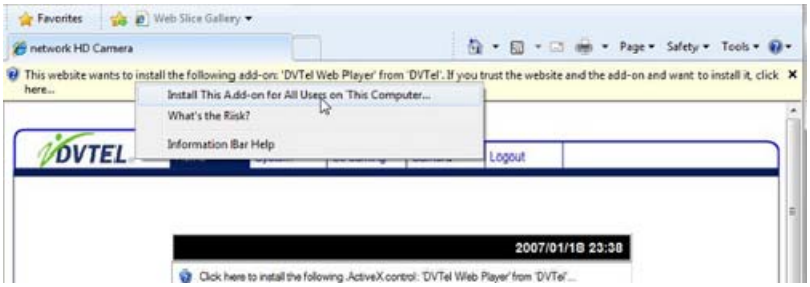
a.) When prompted for the login: In the login prompt that appears, enter username and password for the DVTel CM-3211-00 IP Indoor Dome Camera.

The default login ID and password for the Administrator are:

Login ID	Password
Admin	1234

NOTE: ID and password are case sensitive.

b.) If the Information Bar (just below the URL bar) prompts for permission to install the ActiveX Control for displaying video in browser (see the figure below). Right click on the Information Bar and select "Install ActiveX Control…" to allow the installation.



c.) If a security warning window prompts, click "**Install**".

d.) In the wizard for installing a component application DC Viewer appears, follow the steps of the wizard to complete the installation.

NOTE: If you change the password, and you are using the DVTel Latitude AdminCenter Discovery feature, you will need to deselect all other proprietary types and select only DVTel HD Series so that you can configure the new password in the Discovery tab settings.

Additionally, users can change the IP Camera's network property, either DHCP or Static IP directly in the device finding list. Refer to the following section for changing the IP Camera's network property.

6 Configuration & Operation

The IP Camera is provided with a browser-based configuration interface for video playback and recording. In this chapter, information about main page introduction, system related settings and camera settings will be described in detail.

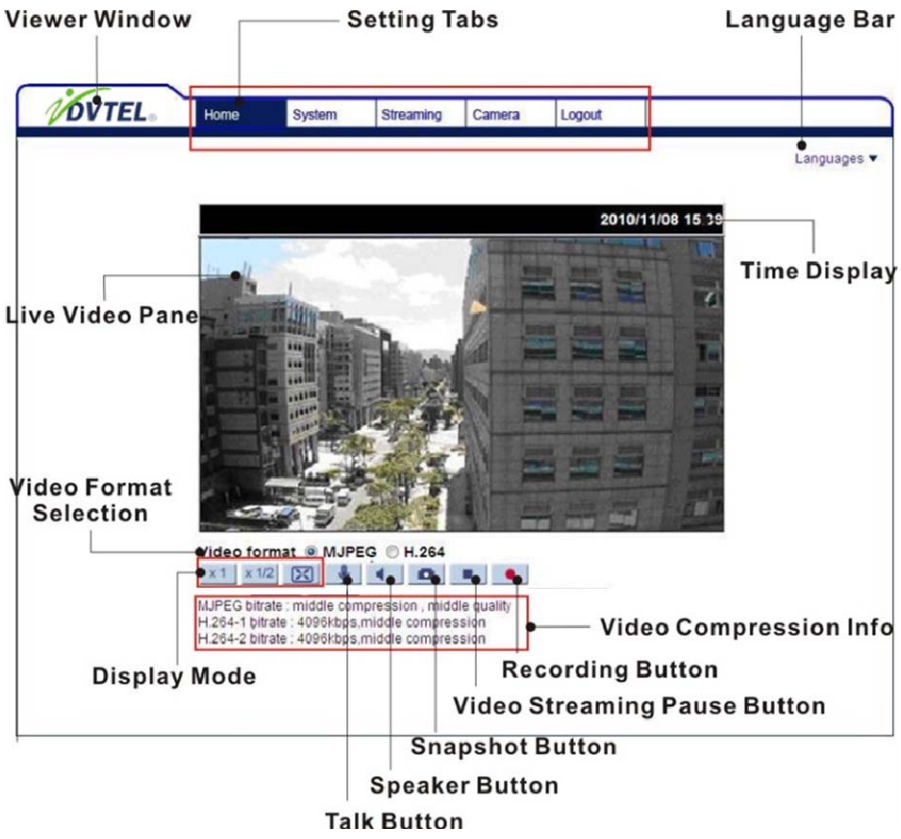
Additionally, if you have DVTel Latitude many of the configurations and features of DVTel's NVMS provide configuration and automation of the DVTel CM-3211-00 IP Indoor Dome Camera.

In this section:

- Browser-based Viewer Introduction
- Home Page
- System Related Settings
- Video and Audio Streaming Settings
- Camera Settings
- Logout

6.1 Browser-based Viewer Introduction

The figure below shows the main page of the IP Camera user interface.



There are five tabs: Home, System, Streaming, Camera and Logout on the top panel.

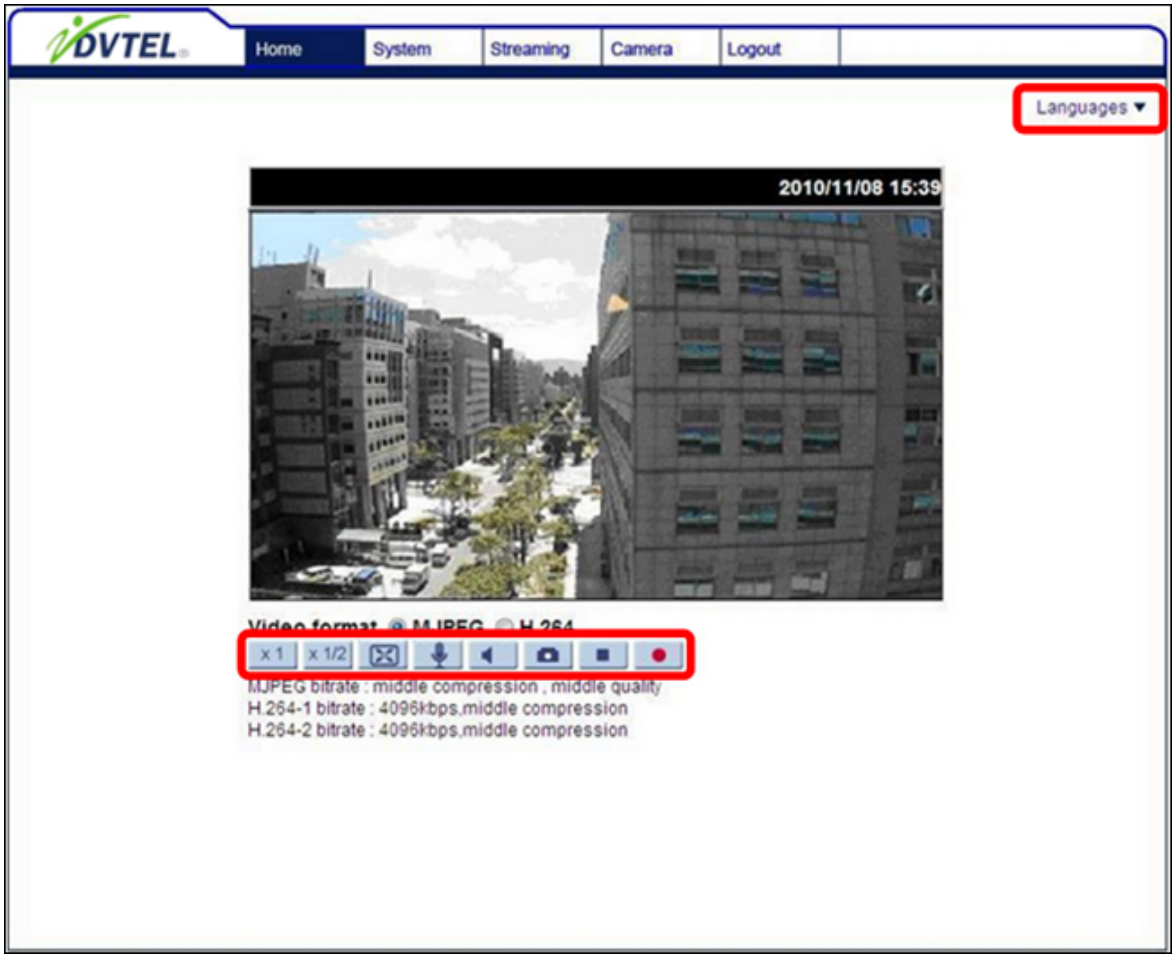
- **Home Page**
  Users can monitor live video of the targeted area.
- **System Settings**
  The administrator can set host name, system time, root password, network related settings, etc. Further details will be interpreted in section System Related Settings.
- **Streaming Settings**
  The administrator can modify video resolution and rotate type and select audio compression mode in this page.
- **Camera Settings**
  Users can adjust various camera parameters, including <Exposure>, <White Balance>, <Brightness>, <Sharpness>, <Contrast>, <Saturation>, <Hue> and < TV System>.
- **Logout**
  Click on the tab to re-login the IP Camera with another username and password.

6.2 Home Page

In the Home page, there are several function buttons right down the displayed image.

Vari-focal Model

6.2.1 Vari-focal Model



Multiple Languages Support

Multiple languages are supported, including English, Deutsch (German), French, Italian, Simplified Chinese, Russian, or Korean for the viewer window interface.

Screen Size Adjustment

Image display size can be adjusted to x1/2 and full screen.

Digital Zoom Control

In the full screen mode, users can implement digital PTZ by rotating the mouse wheel (for zoom in/out), and drag the mouse into any direction.

Talk button (on/off)

Talk function allows the local site to talk to the remote site. Click on the button to switch it to on/off. Please refer to section 7.3.2 Security: Add user >> Talk/Listen for further details. This function is only open to "User" who has been granted this privilege by the Administrator.

Speaker button (on/off)

Press the Speaker button to mute/activate the audio.

Snapshot button

Press the button, and the JPEG snapshots will automatically be saved in the specified place. The default place of saving snapshots is: C:\. To change the storage location, please refer to section File Location for further details.

Video Streaming Pause / Restart button (pause/restart)

Press the stop button to disable video streaming, the live video will be displayed as black. Press the restart button to show the live video again.

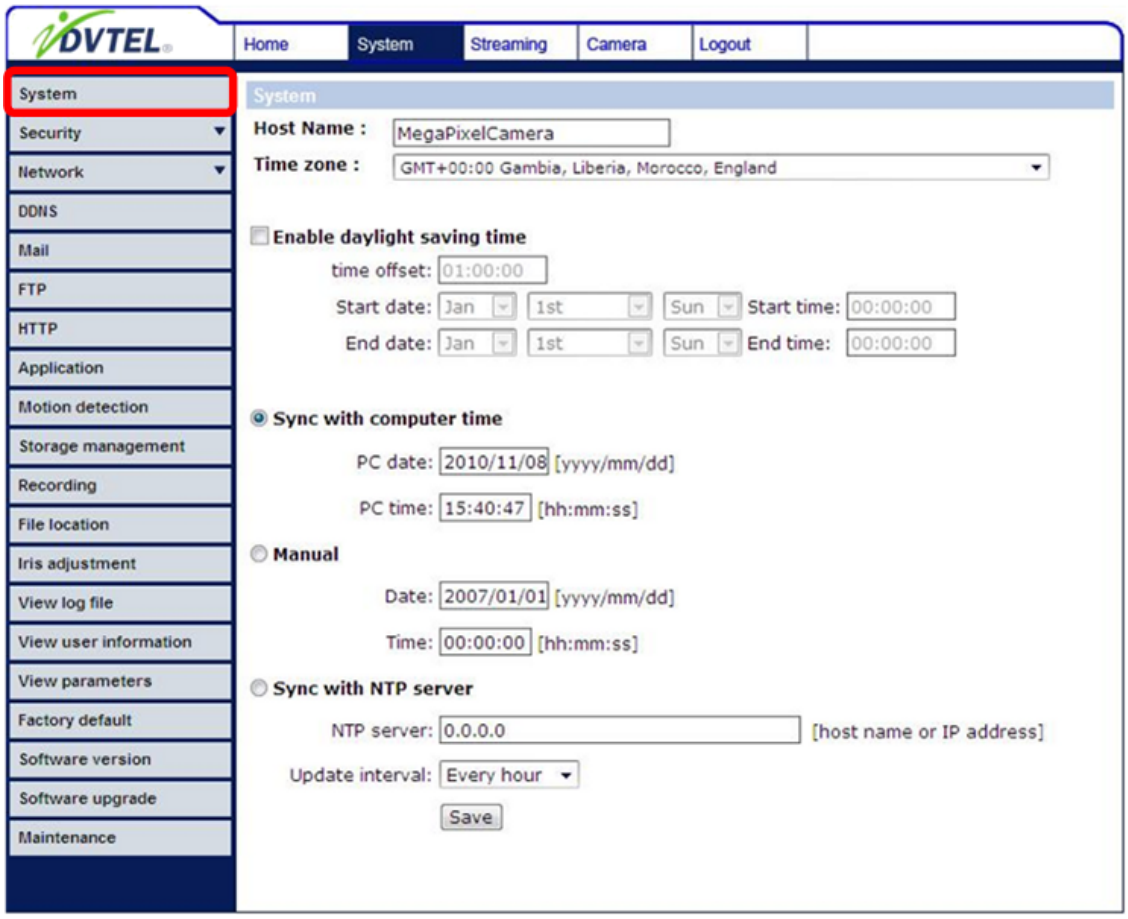
Web Recording button (on/off)

Press the <Recording> button and the recordings from the Live View will be directly to the specific location on the local hard drive, which could be configured in the "File Location" (snapshot) page. The default storage location for the web recording is: C:/. Please refer to section File Location for further details.

6.3 System Related Settings

The figure below shows all categories under the "**System**" tab. Each category in the left column will be explained in the following sections.

NOTE: The "System" configuration page is only accessible by Administrator.

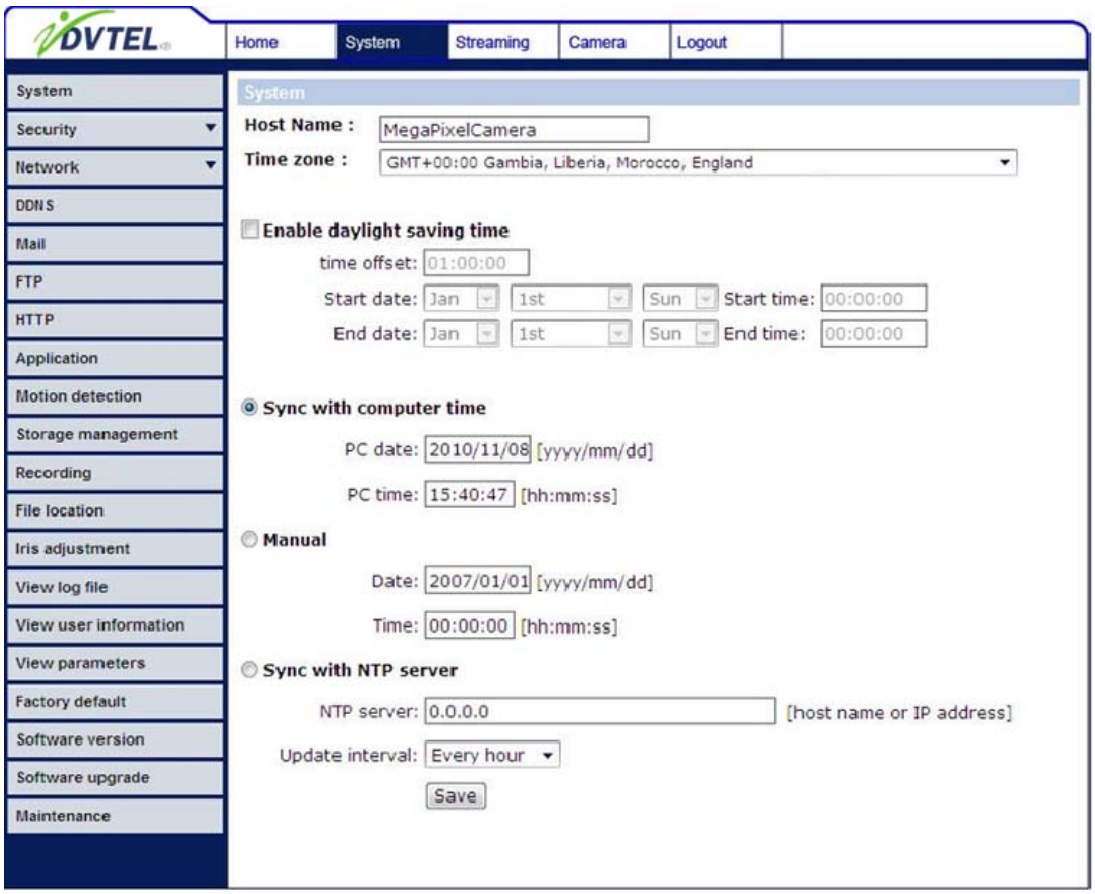


Related Links

- Host Name and System Time Setting
- Security
- Network
- DDNS
- Mail
- FTP
- HTTP
- Application
- Motion Detection
- Tampering
- Storage Management
- Recording
- File Location
- Iris Adjustment
- View Log File
- View User Information
- View Parameters
- Factory Default
- Software Version
- Software Upgrade
- Maintenance

6.3.1 Host Name and System Time Setting

Press the first category: <System> in the left column; the page is shown as below.



Host Name

The name is for camera identification. If alarm function (see section Application is enabled and is set to send alarm message by Mail/FTP, the host name entered here will display in the alarm message.

Time Zone

Select the time zone you are in from the drop-down menu.

Enable Daylight Saving Time

To enable DST, please check the item and then specify time offset and DST duration. The format for time offset is [hh:mm:ss]; for instance, if the amount of time offset is one hour, please enter "01:00:00" into the field.

Sync With Computer Time

Select the item, and video date and time display will synchronize with the PC's.

Manual

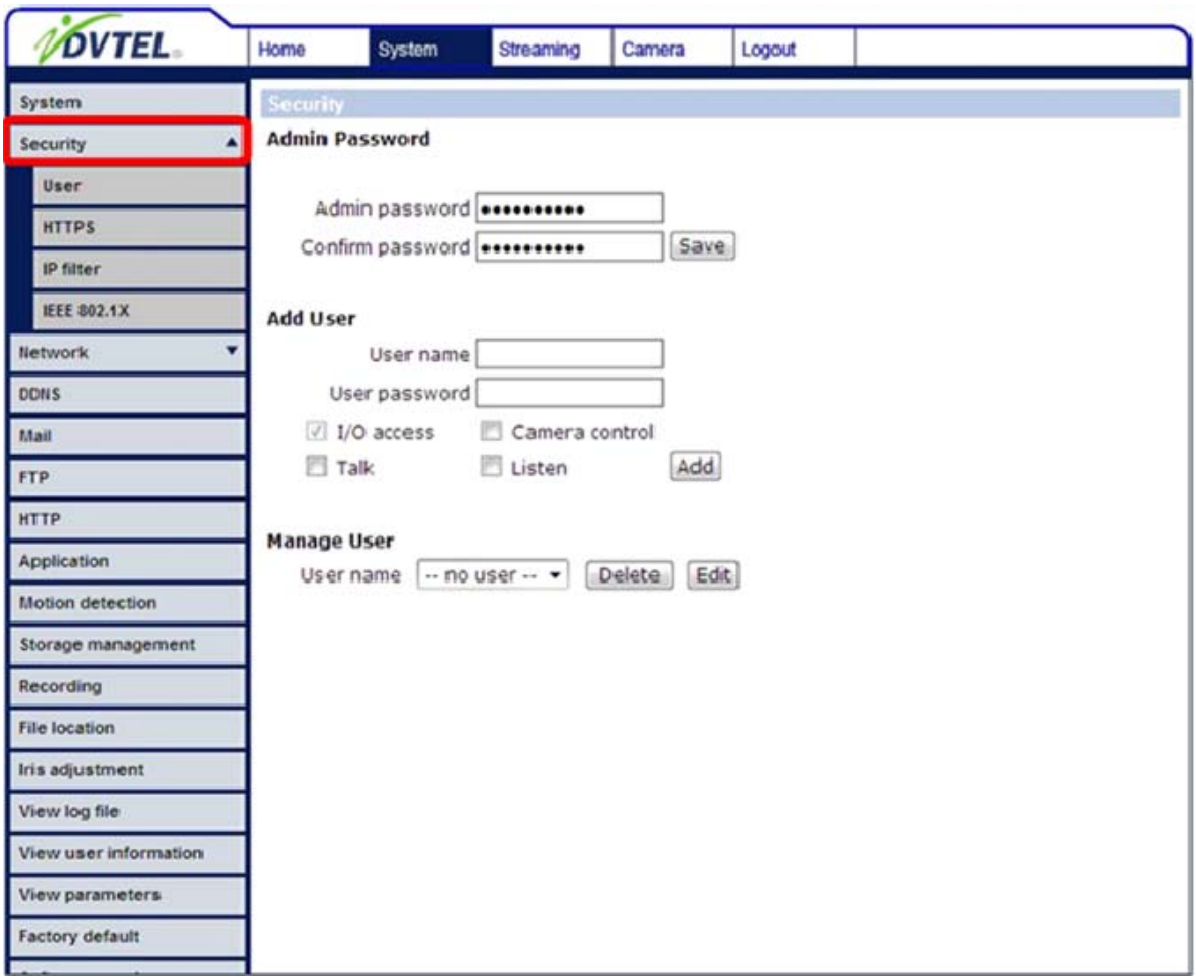
The Administrator can set video date, time and day manually. Entry format should be identical with that shown next to the enter field.

Sync with NTP Server

Network Time Protocol (NTP) is an alternate way to synchronize your camera's clock with a NTP server. Please specify the server you wish to synchronize in the enter field. Then select an update interval from the drop-down menu. For further information about NTP, please see the web site: www.ntp.org.

6.3.2 Security

Click the category: <Security>, there will be a drop-down menu with tabs including <User>, <HTTPS>, <IP Filter>, and <IEEE 802.1X>.



Related Links

User

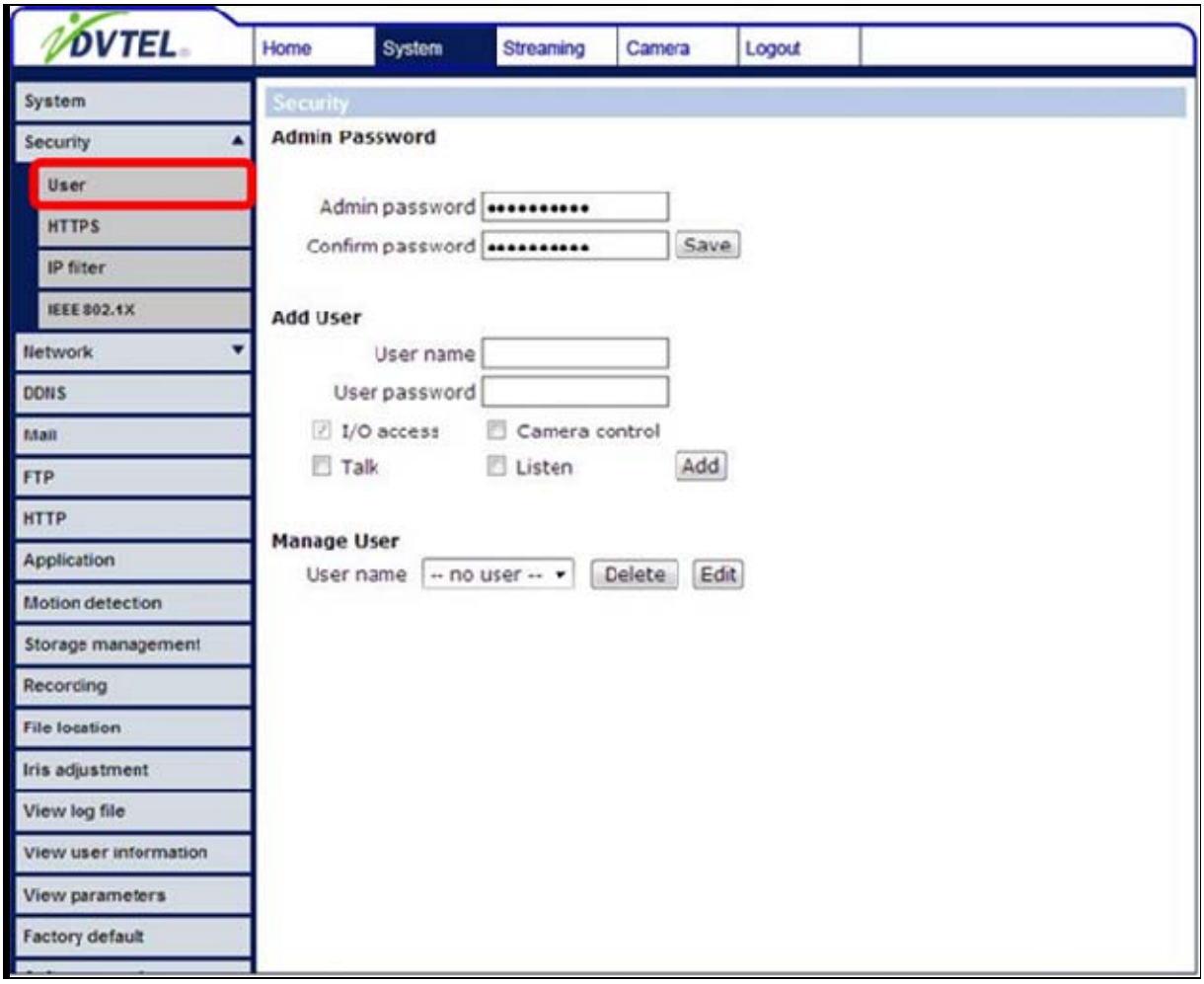
HTTPS

IP Filter

IEEE 802.1X

6.3.2.1 User

Click the <User> tab under the category <Security> and the page is shown as the figure below.



Root password

Change the administrator's password by inputting the new password in both text boxes. The input characters/numbers will be displayed as dots for security purposes. After clicking <Save>, the web browser will ask the Administrator for the new password for access. The maximum length of the password is 14 digits.

NOTE: The following characters are valid: A-Z, a-z, 0-9, !#$%&'-.@^_~.

Add user

Type the new user's name and password and click <Add> to add the new user. Both user name and password can be up to 16 characters. The new user will be displayed in the user name list. There is a maximum of twenty user accounts. Each user can be assigned the privileges of **"Camera control"**, **"Talk"** and **"Listen"**.

I/O access

This item supports fundamental functions that enable users to view video when accessing to the camera.

Camera control

This item allows the specified User to change camera parameters on the Camera Setting page.

Talk/Listen

Talk and Listen functions allow the appointed user in the local site (PC site) communicating with, for instance, the administrator in the remote site.

Manage User

Delete user

To delete a user, pull down the user list, and select the user name you wish to delete. Then click <Delete> to remove it.

Edit user

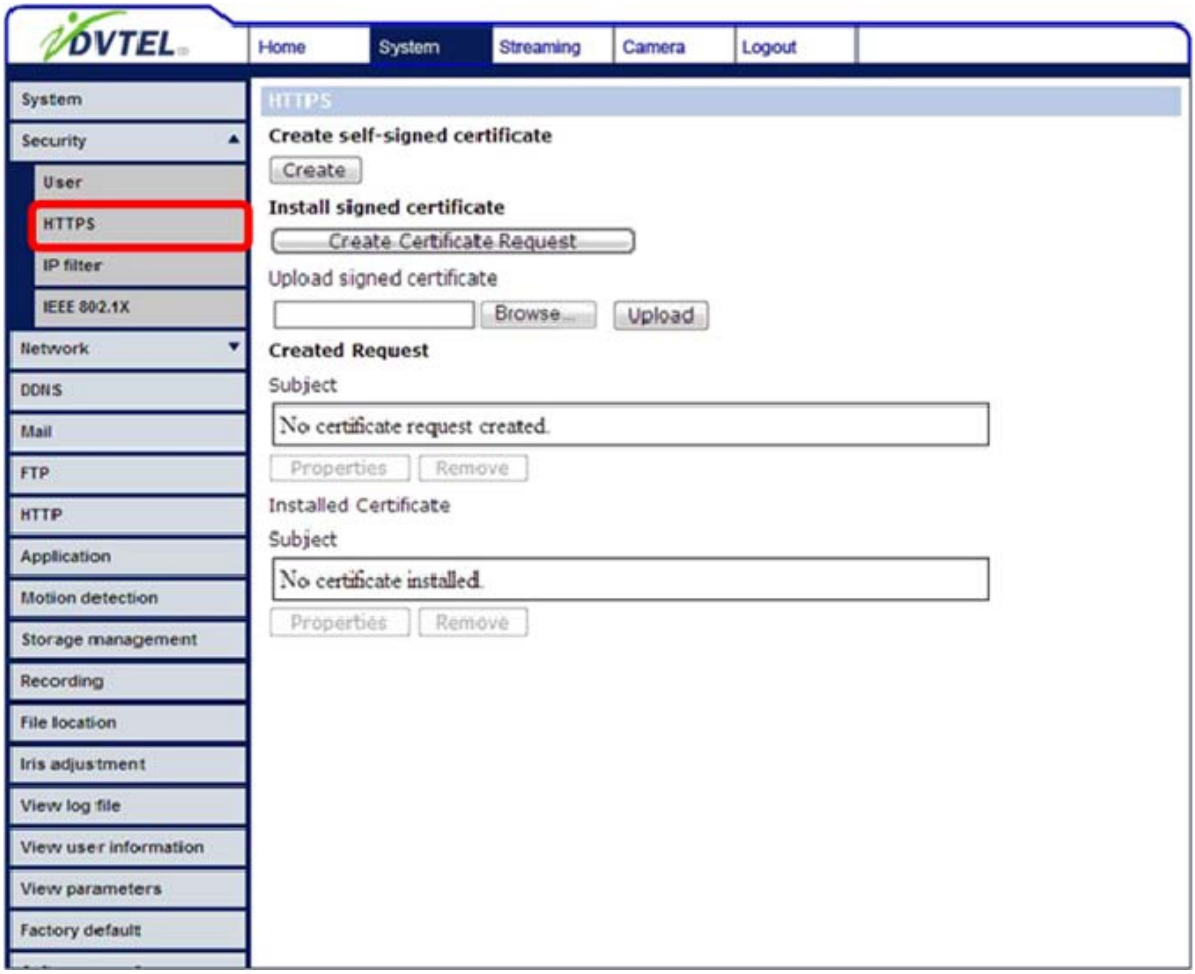
Pull down the user list and select a user name. Click <Edit> to edit the user's password and privilege.

NOTE: It is required to enter the User password as well as select the function open to the user. When finished, click <Save> to modify the account authority.

6.3.2.2 HTTPS

<HTTPS> allows secure connections between the IP Camera and web browser using <Secure Socket Layer (SSL)> or <Transport Layer Security (TLS)>, which ensure camera settings or Username/ Password info from snooping. It is required to install a self-signed certificate or a CA-signed certificate for implementing <HTTPS>.

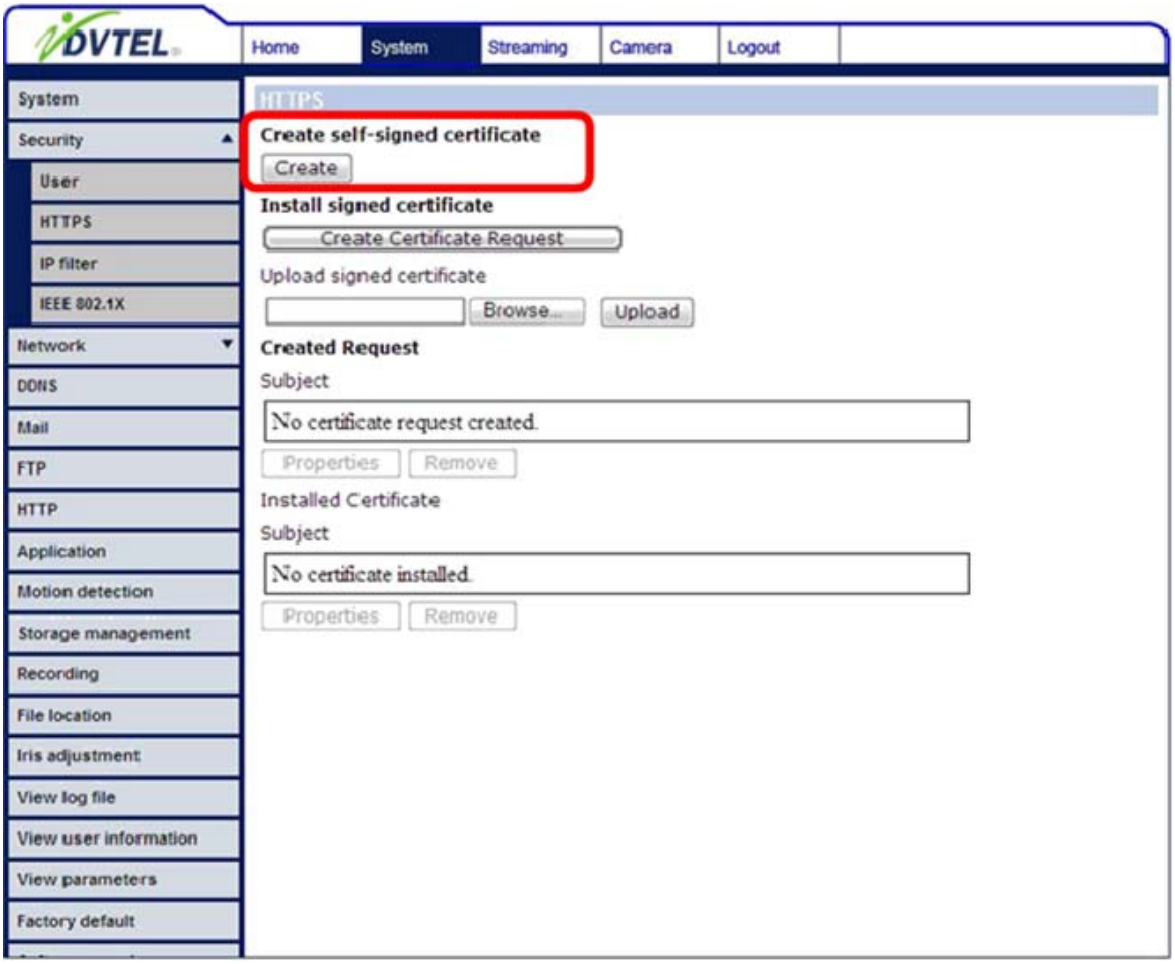
Click the <HTTPS> tab, and the HTTPS setting page is shown as the figure below.



To use HTTPS on the IP Camera, a HTTPS certificate must be installed. The HTTPS certificate can be obtained by either creating and sending a certificate request to a Certificate Authority (CA) or creating a self-signed HTTPS certificate, as described below.

Create Self-signed Certificate

Before a CA-issued certificate is obtained, users can create and install a self-signed certificate first.

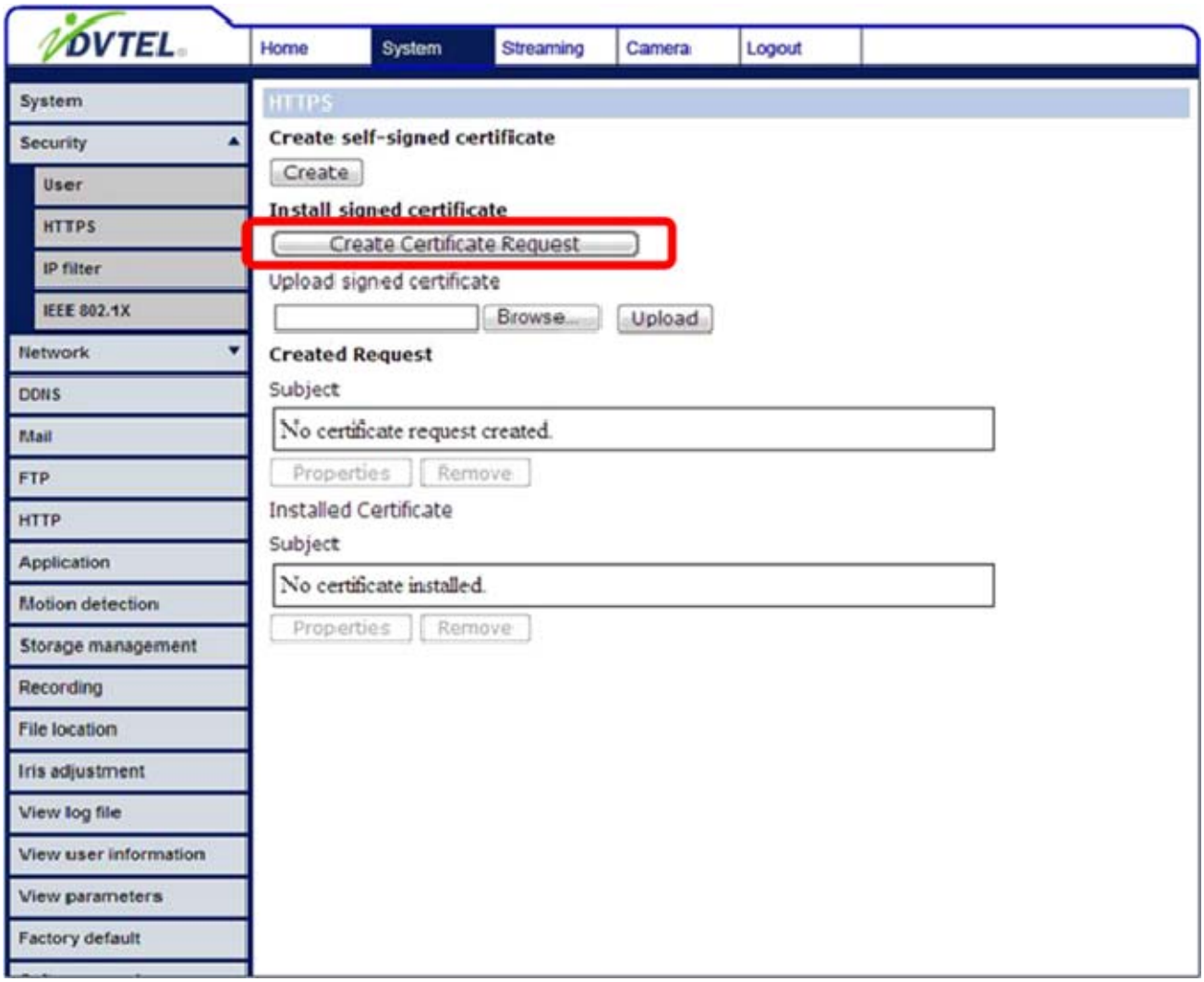


Click <**Create**> button under "**Create self-signed certificate**" and provide the requested information to install a self-signed certificate for the IP Camera. Please refer to the last part of this section: Provide the Certificate Information for more details.

NOTE: The self-signed certificate does not provide the same high level of security as when using a CA-issued certificate.

Create Certificate Request

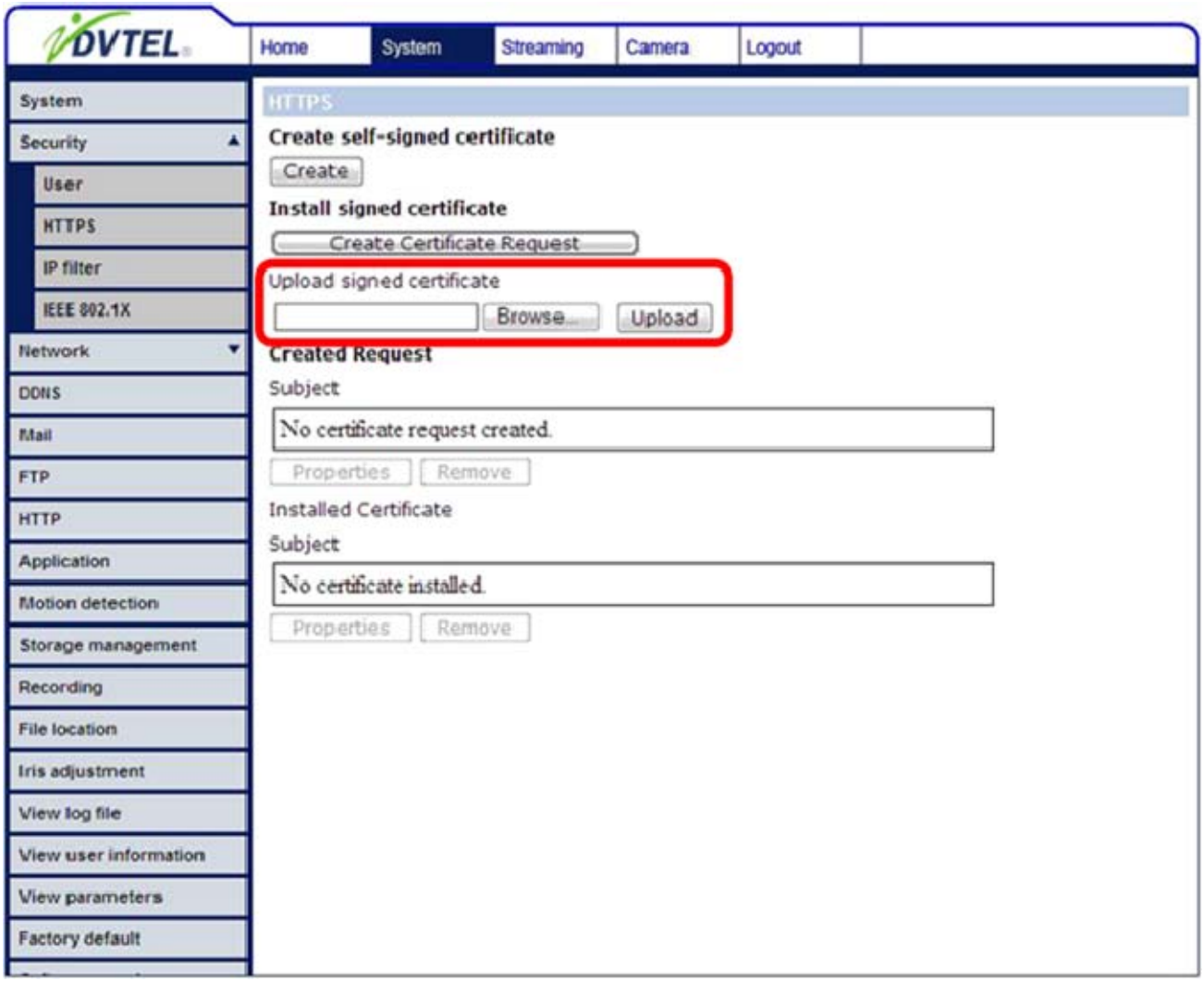
Click the "**Create Certificate Request**" button to create and submit a certificate request in order to obtain a signed certificate from CA.



Provide the request information in the create dialog. Please refer to the following Provide the Certificate Information for more details.

When the request is complete, the subject of the Created Request will be shown in the field. Click "**Properties**" below the Subject field, copy the PEM-formatted request and send it to your selected CA.

When the signed certificate is returned, install it by uploading the signed certificate.


DVTEL
Home
System
Streaming
Camera
Logout
System
Security
User
HTTPS
IP filter
IEEE 802.1X
Network
DDNS
Mail
FTP
HTTP
Application
Motion detection
Storage management
Recording
File location
Iris adjustment
View log file
View user information
View parameters
Factory default
HTTPS
Create self-signed certificate
Create
Install signed certificate
Create Certificate Request
Upload signed certificate
Browse...
Upload
Created Request
Subject
No certificate request created.
Properties
Remove
Installed Certificate
Subject
No certificate installed.
Properties
Remove

Provide the Certificate Information

To create a Self-signed HTTPS Certificate or a Certificate Request to CA, please enter the information as requested:

Country

Enter a 2-letter combination code to indicate the country the certificate will be used in. For instance, type in "US" to indicate United States.

State or province

Enter the local administrative region.

Locality

Enter other geographical information.

Organization

Enter the name of the organization to which the entity identified in "Common Name" belongs.

Organization Unit

Enter the name of the organizational unit to which the entity identified in "Common Name" belongs.

Common Name

Indicate the name of the person or other entity that the certificate identifies (often used to identify the website).

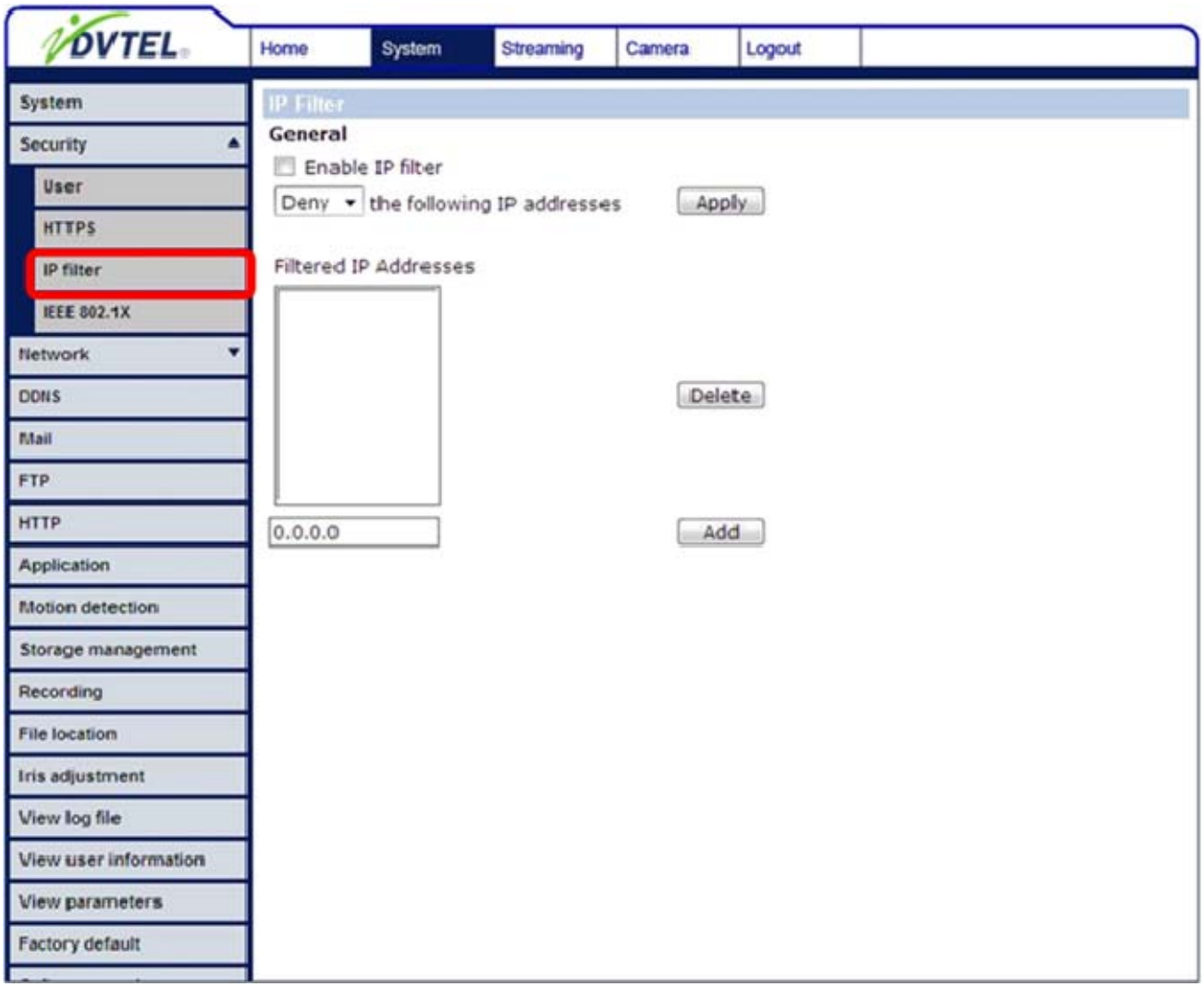
Valid days (Self-signed Certificate Only)

Enter the period in days (1~9999) to indicate the valid period of certificate.

Click "**OK**" to save the Certificate Information after complete.

6.3.2.3 IP Filter

Using the IP filter, access to the IP Camera can be restricted by denying/allowing specific IP addresses.



General

Enable IP Filter

Check the box to enable the IP Filter function. Once enabled, the listed IP addresses (IPv4) will be allowed/ denied access to the IP Camera.

Select "**Allow**" or "**Deny**" from the drop-down list and click the <**Apply**> button to determine the IP Filter behavior.

Add/ Delete IP Address

Input the IP address and click the <**Add**> button to add a new filtered address.

The Filtered IP Addresses list box shows the currently configured IP addresses. Up to 256 IP address entries may be specified.

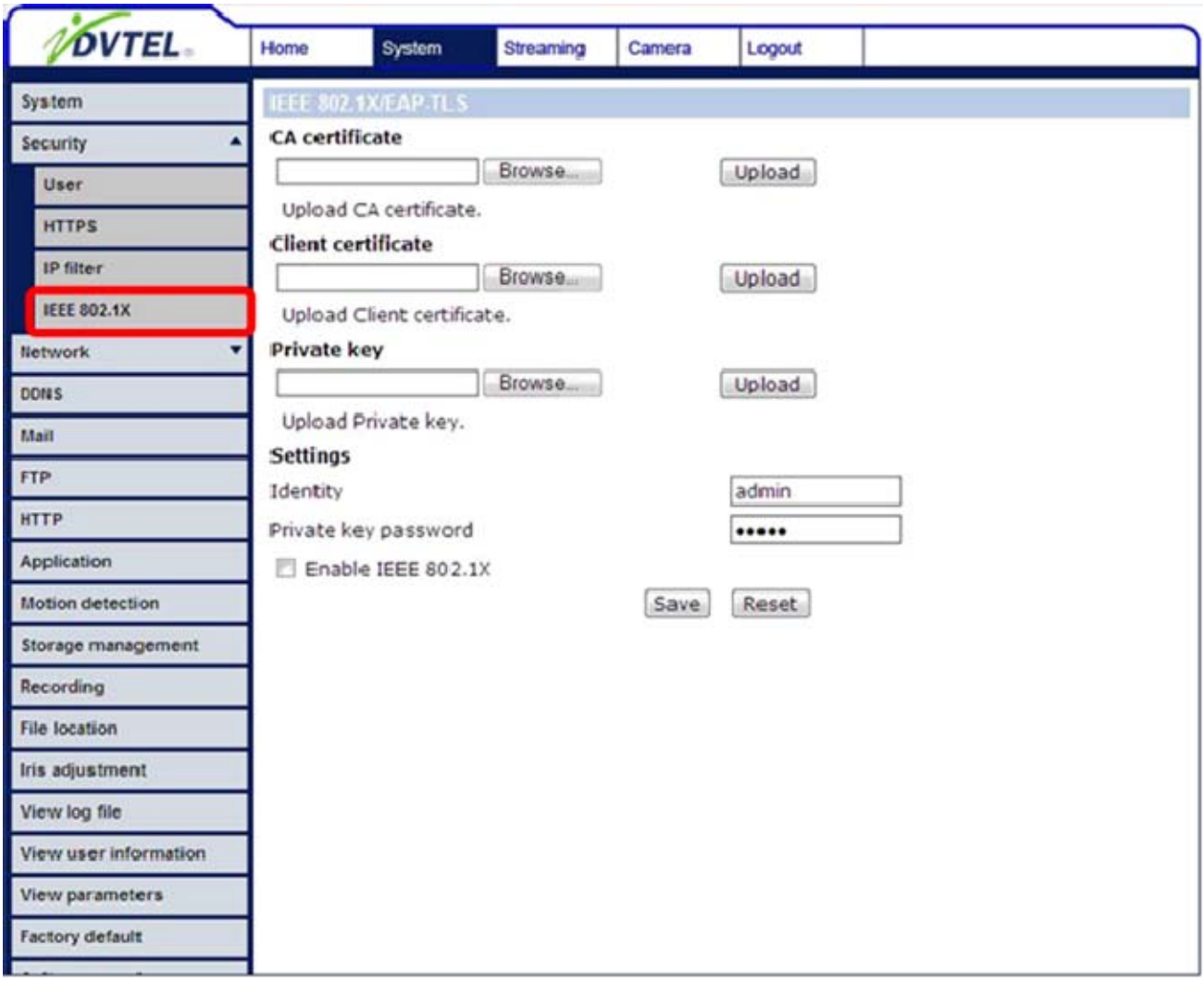
To remove an IP address from the list, please select the IP and then click the <**Delete**> button.

6.3.2.4 IEEE 802.1X

The IP Camera is allowed to access a network protected by 802.1X/EAPOL

(Extensible Authentication Protocol over LAN).

Users need to contact with the network administrator for gaining certificates, user IDs and passwords


DVTEL
Home
System
Streaming
Camera
Logout
System
Security
User
HTTPS
IP filter
IEEE 802.1X
Network
DDNS
Mail
FTP
HTTP
Application
Motion detection
Storage management
Recording
File location
Iris adjustment
View log file
View user information
View parameters
Factory default
IEEE 802.1X/EAP-TLS
CA certificate
Browse...
Upload
Upload CA certificate.
Client certificate
Browse...
Upload
Upload Client certificate.
Private key
Browse...
Upload
Upload Private key.
Settings
Identity
admin
Private key password
Enable IEEE 802.1X
Save
Reset

CA Certificate

The CA certificate is created by the Certification Authority for the purpose of validating itself. Upload the certificate for checking the server's identity.

Client Certificate / Private Key

Upload the Client Certificate and Private Key for authenticating the IP Camera itself.

Settings

Identity

Enter the user identity associated with the certificate. Up to 16 characters can be used.

Private Key Password

Enter the password (maximum 16 characters) for your user identity.

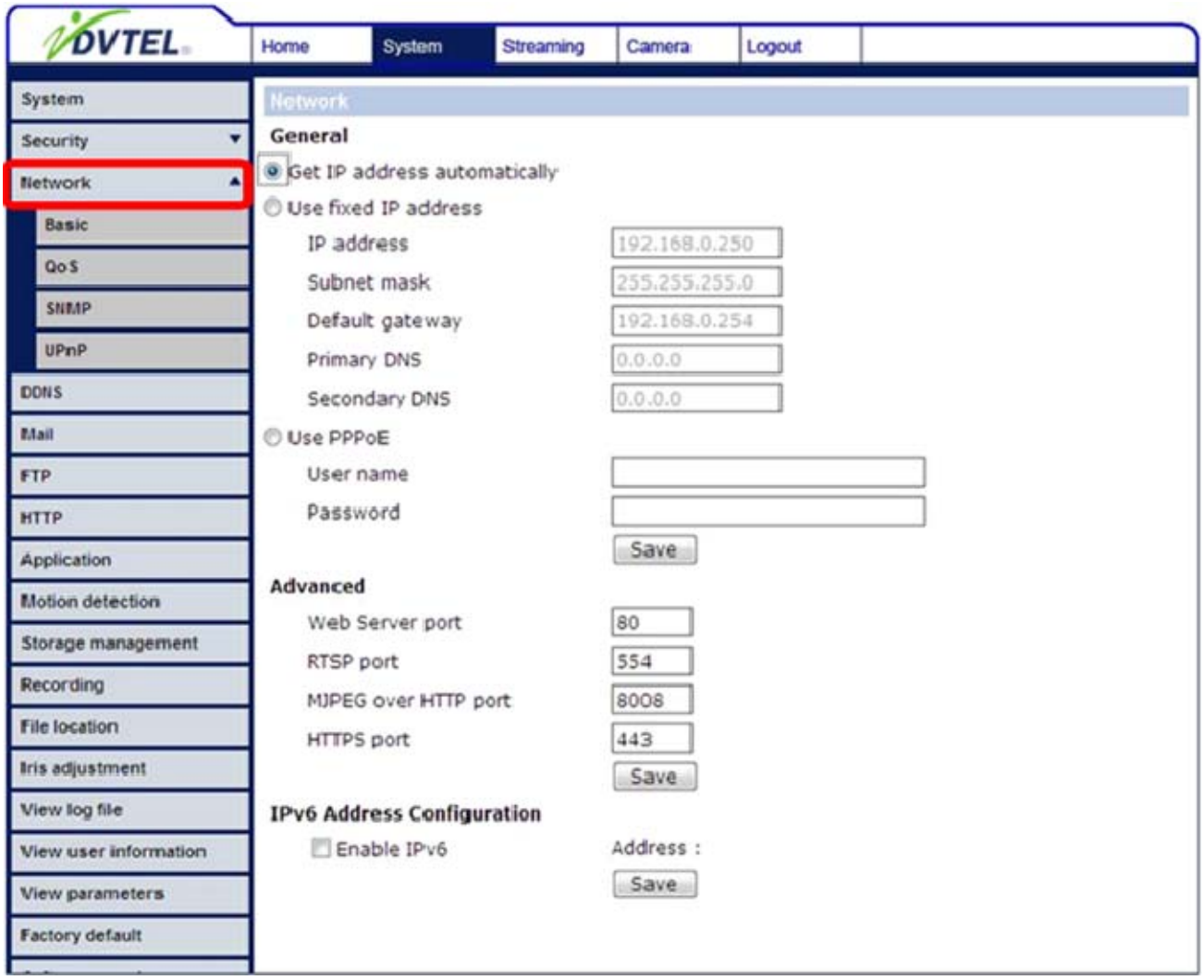
Enable IEEE 802.1X

Check the box to enable IEEE 802.1X.

Click "**Save**" to save the IEEE 802.1X/ EAP- TLS setting.

6.3.3 Network

Click the category: < Network>, there will be a drop-down menu with tabs including <Basic>, <QoS>, <SNMP>, and <UPnP>.



Related Links

Basic

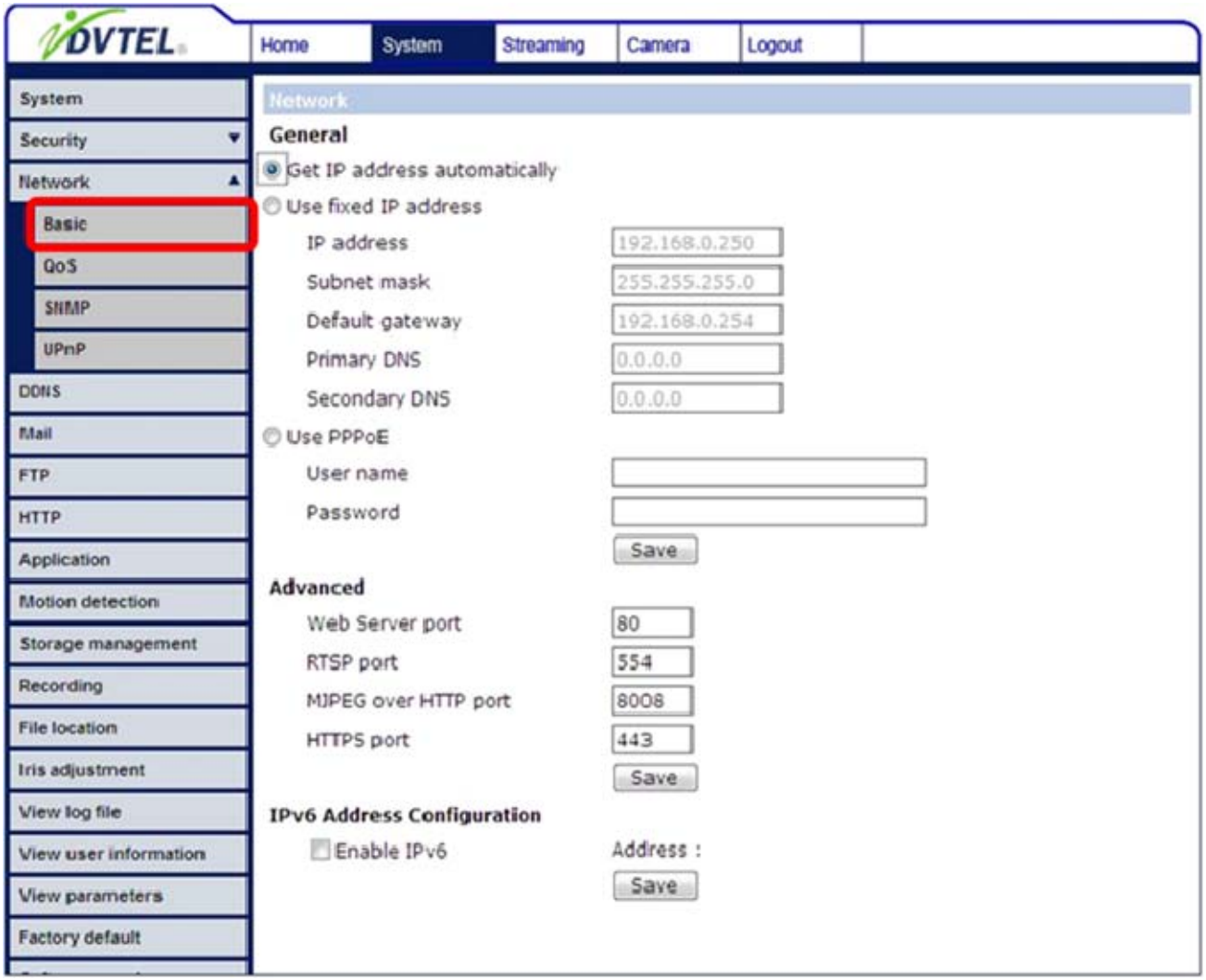
QoS (Quality of Service)

SNMP (Simple Network Management Protocol)

UPnP

6.3.3.1 Basic

Users can choose to connect to the IP Camera with fixed or dynamic (DHCP) IP address. The IP Camera also provides PPPoE (Point-to-Point Protocol over Ethernet) support for users who connect to the network via PPPoE.



Get IP address automatically (DHCP)

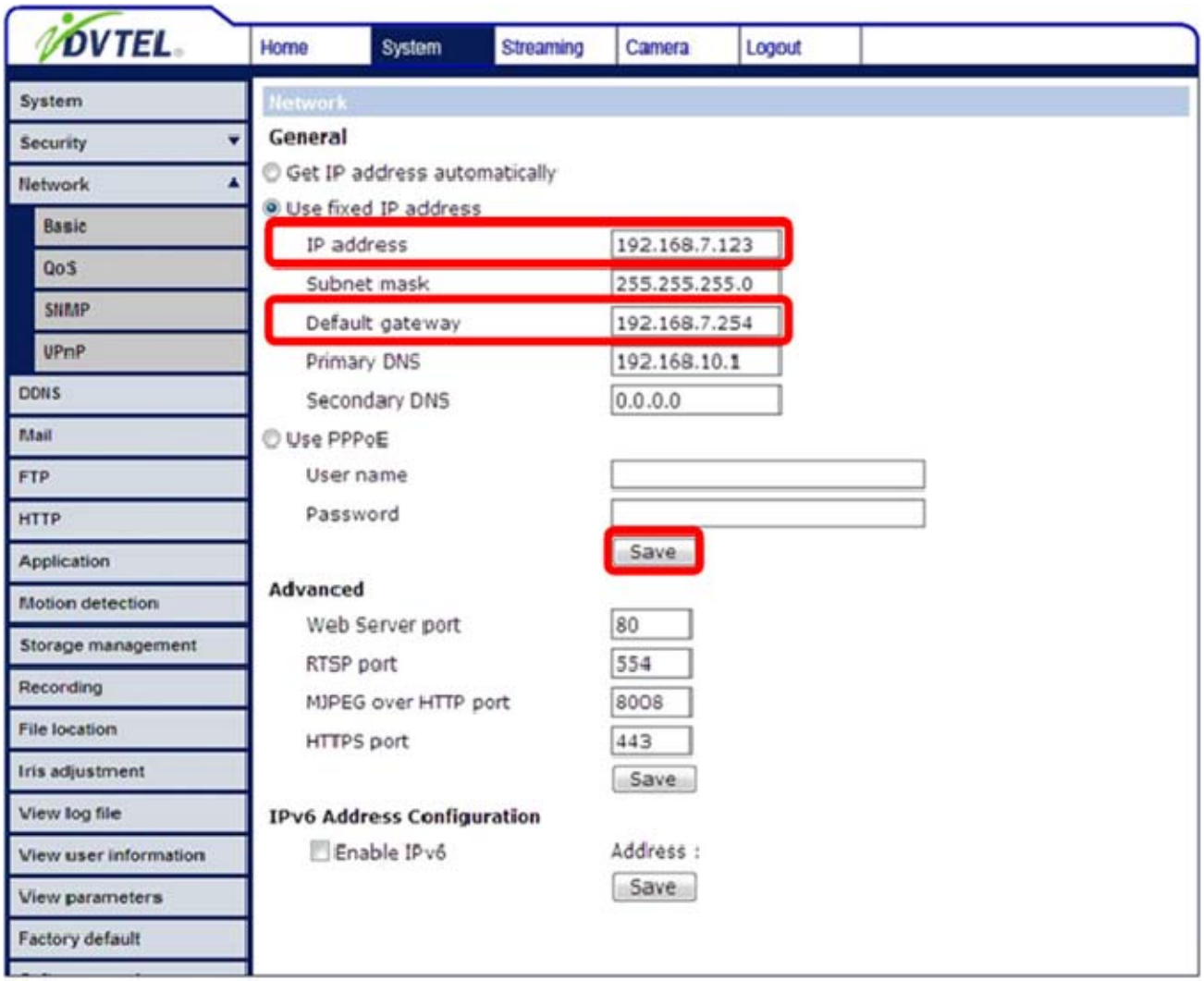
The camera's default setting is "**Use fixed IP address**". Please refer to the previous section Accessing Camera for login with the default IP address.

If select "**Get IP address automatically**", after the IP Camera restarts, users can search it through the installer program: DeviceSearch.exe, which can be found in "DeviceSearch" folder in the supplied CD.

NOTE: Please make the record of the IP Camera's MAC address, which can be found in the label of the camera, for identification in the future.

Use fixed IP address

To setup static IP address, select "**Use fixed IP address**" and move the cursor to the IP address blank (as indicated below) and insert the new IP address, ex. 192.168.7.123; then go to the Default gateway (explained latter) blank and change the setting, ex. 192.168.7.254. Press "**Save**" to confirm the new setting.



When using static IP address to login to the IP Camera, users can access it either through "DeviceSearch" software (see Accessing Camera) or input the IP address in the URL bar and press "**Enter**".

- **IP address**
  This is necessary for network identification.
- **Subnet mask**
  It is used to determine if the destination is in the same subnet. The default value is "255.255.255.0".
- **Default gateway**
  This is the gateway used to forward frames to destinations in different subnet. Invalid gateway setting will fail the transmission to destinations in different subnet.
- **Primary DNS**
  Primary DNS is the primary domain name server that translates hostnames into IP addresses.
- **Secondary DNS**
  Secondary DNS is a secondary domain name server that backups the primary DNS.
- **Use PPPoE**
  For the PPPoE users, enter the PPPoE Username and Password into the fields, and click on the "**Save**" button to complete the setting.

Advanced

- **Web Server port**
  The default web server port is 80. Once the port is changed, the user must be notified the change for the connection to be successful. For instance, when the Administrator changes the HTTP port of the IP Camera whose IP address is 192.168.0.100 from 80 to 8080, the user must type in the web browser "http://192.168.0.100:8080" instead of http://192.168.0.100
- **RTSP port**
  The default setting of RTSP Port is 554; the setting range is from 1024 to 65535.
- **MJPEG over HTTP port**
  The default setting of MJPEG over HTTP Port is 8008; the setting range is from 1024 to 65535.
- **HTTPS port**
  The default setting of HTTPS Port is 443; the setting range is from 1024 to 65535.

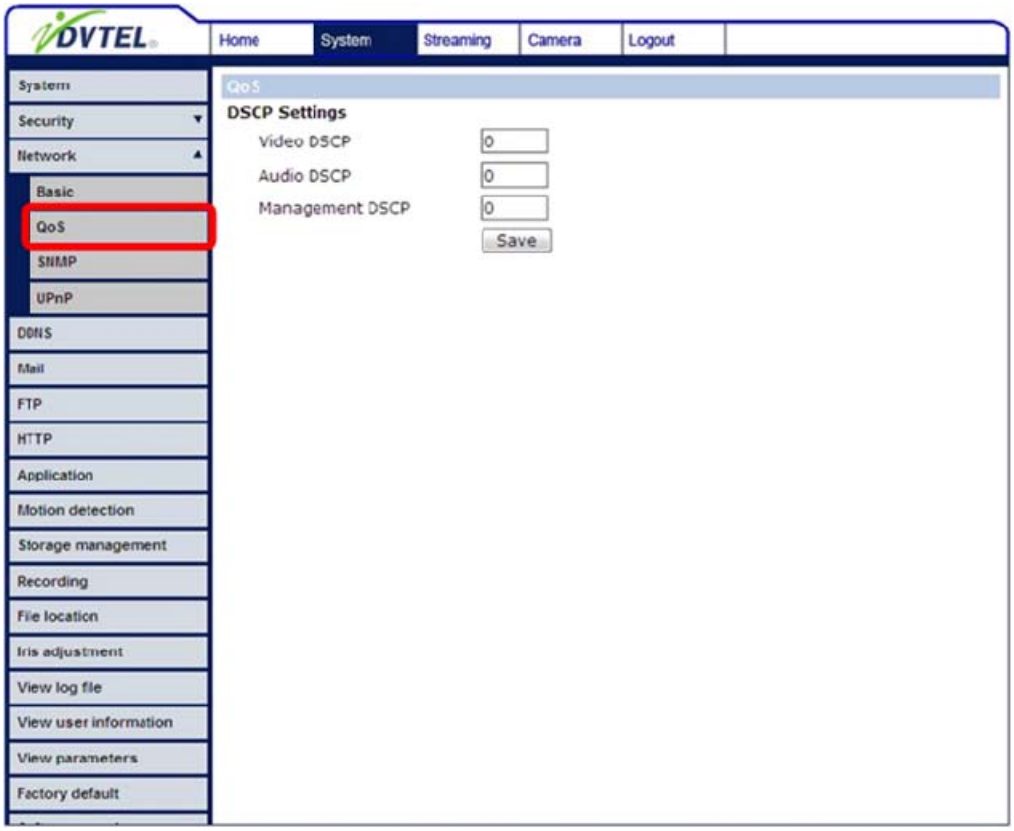
NOTE: Be aware to assign a different port number for each separate service mentioned above.

IPv6 Address Configuration

With IPv6 support, users can use the corresponding IPv6 address for browsing. Enable IPv6 by checking the box and click "**Save**" to complete the setting.

6.3.3.2 QoS (Quality of Service)

QoS allows providing differentiated service levels for different types of traffic packets, which guarantees delivery of priority services especially when network congestion occurs. Adapting the Differentiated Services (DiffServ) model, traffic flows are classified and marked with DSCP (DiffServ Codepoint) values, and thus receive the corresponding forwarding treatment from DiffServ capable routers.



DSCP Settings

The DSCP value range is from 0 to 63. The default DSCP value is 0, which means DSCP disabled.

The IP Camera uses the following QoS Classes: Video, Audio and Management.

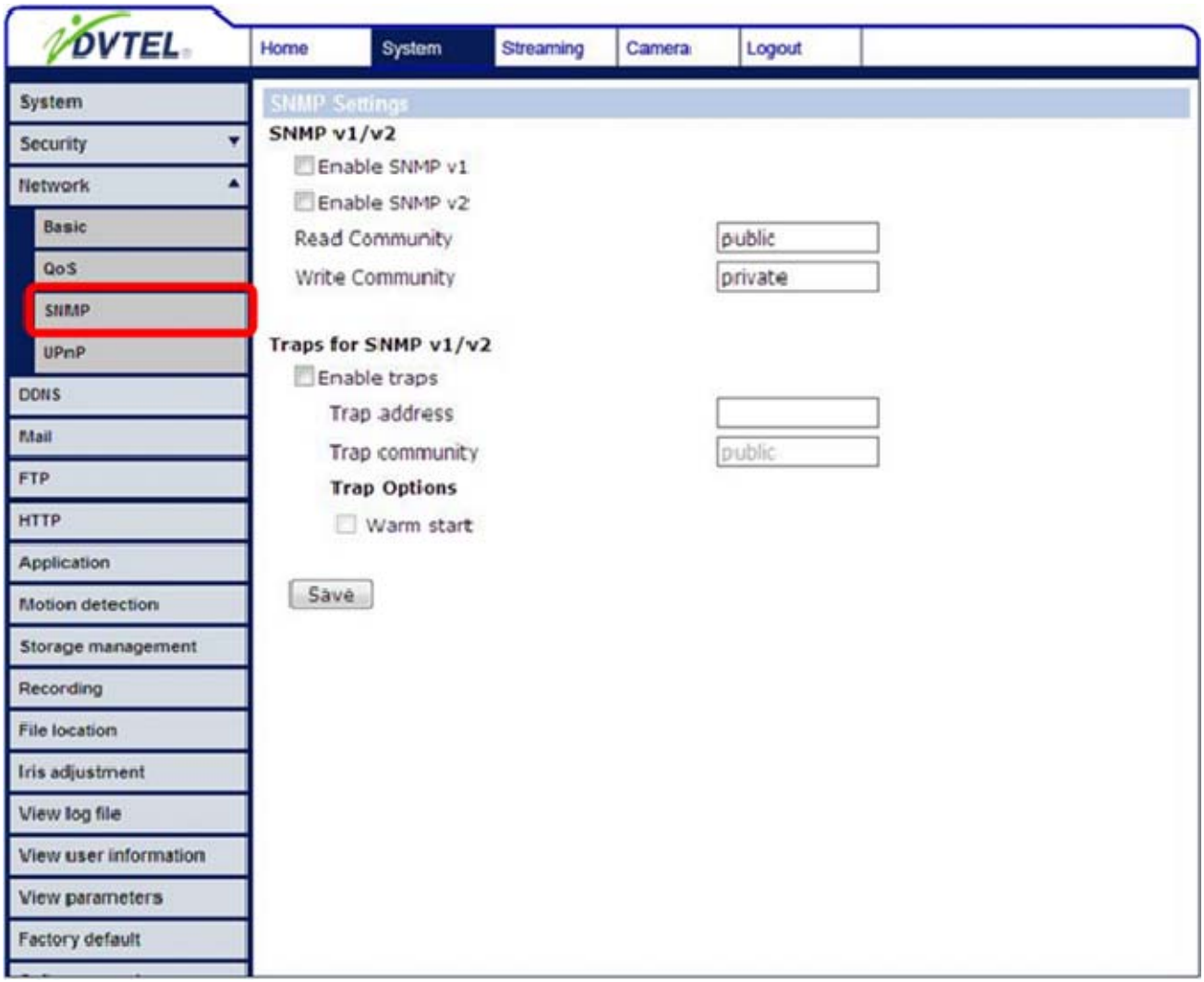
- **Video**
  The class consists of applications such as MJPEG over HTTP, RTP/RTSP and RTSP/HTTP.
- **Audio**
  This setting is only available for the IP Cameras that support audio.
- **Management**
  The class consists of HTTP traffic: Web browsing.

Click the "**Save**" button when complete.

NOTE: To enable this function, please make sure the switches/routers in the network support QoS.

6.3.3.3 SNMP (Simple Network Management Protocol)

With Simple Network Management Protocol (SNMP) support, the IP Camera can be monitored and managed remotely by the network management system.



SNMP v1 / v2

- **Enable SNMP**
  Select the version of SNMP to use by checking the box.
- **Read Community**
  Specify the community name that has read-only access to all supported SNMP objects. The default value is "public".
- **Write Community**
  Specify the community name that has read/write access to all supported SNMP objects (except read-only objects). The default value is "write".

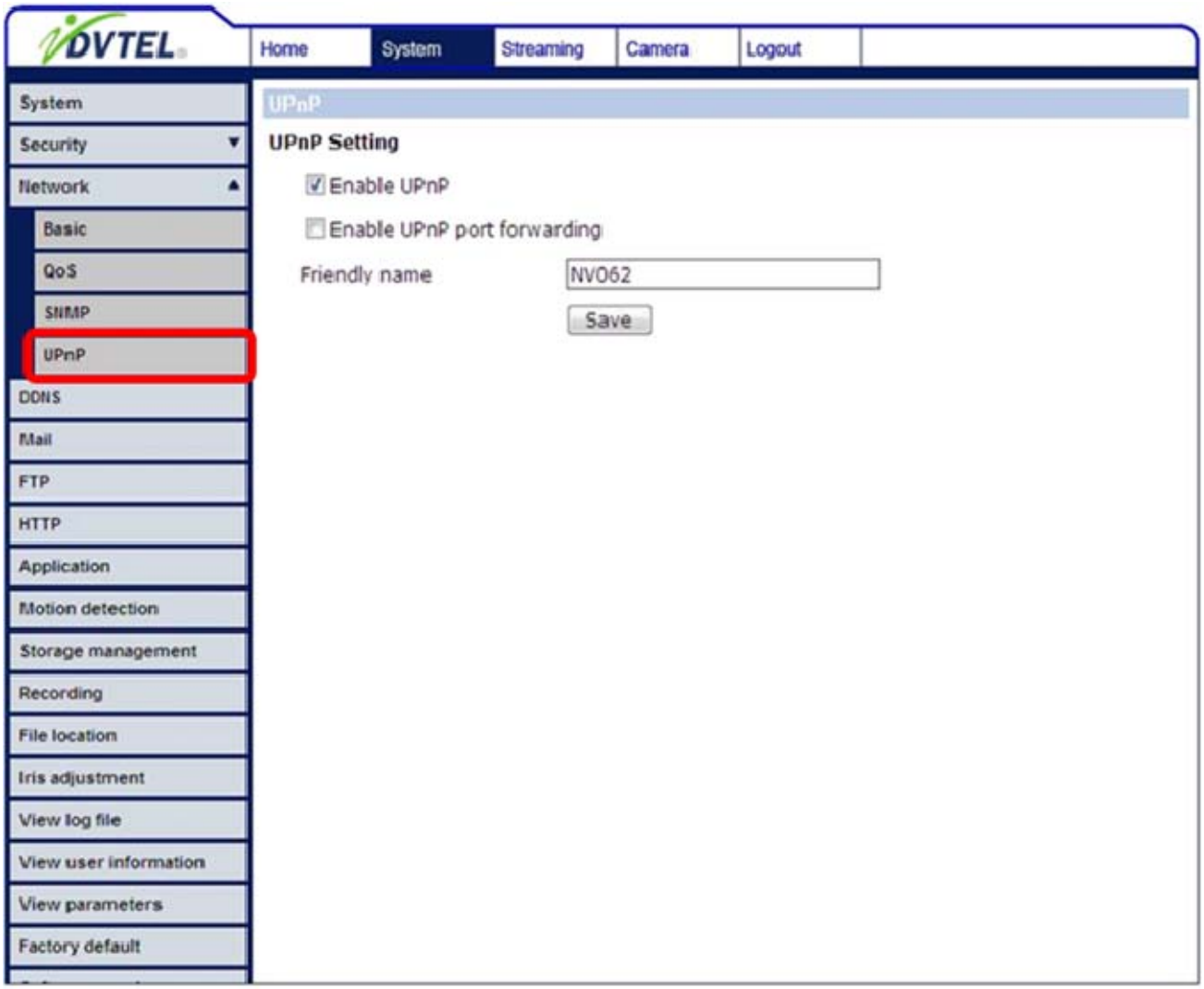
Traps for SNMP v1 / v2

Traps are used by the IP Camera to send massages to a management system for important events or status changes.

- **Enable Traps**
  Check the box to activate trap reporting.
- **Trap address**
  Enter the IP address of the management server.
- **Trap community**
  Enter the community to use when sending a trap message to the management system.
- **Trap Option**
- **Warm Start**
  A Warm Start SNMP trap signifies that the SNMP device, i.e. IP Camera, performs software reload.

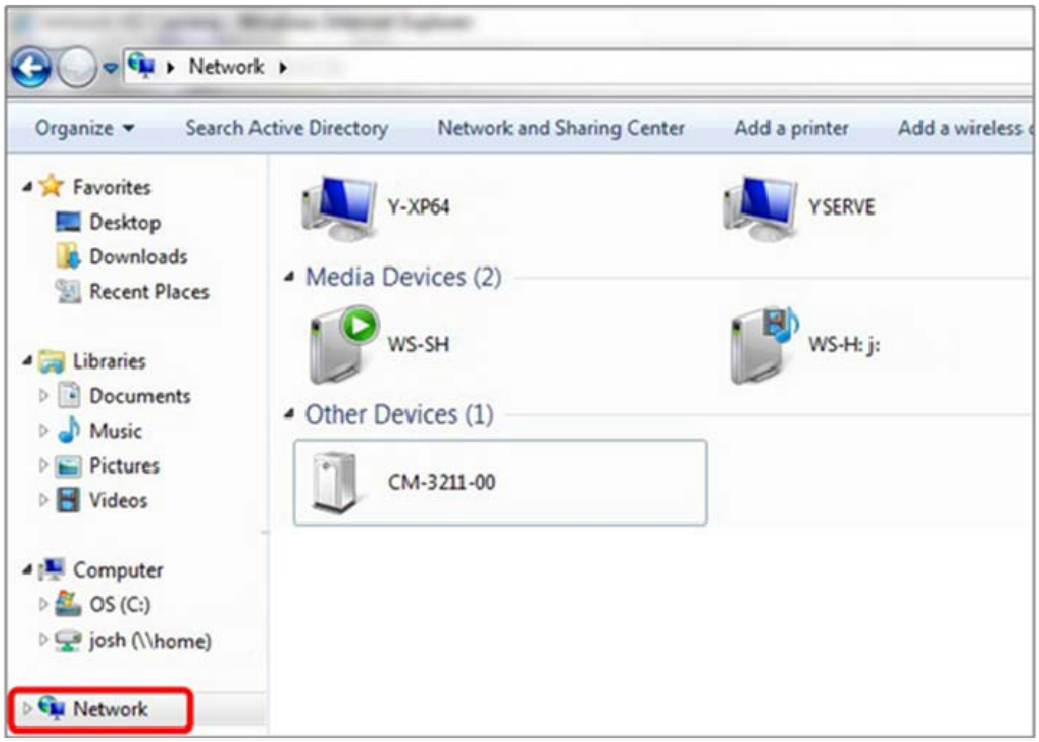
Click the "**Save**" button when complete.

6.3.3.4 UPnP


DVTEL
Home
System
Streaming
Camera
Logout
System
Security
Network
Basic
QoS
SNMP
UPnP
DDNS
Mail
FTP
HTTP
Application
Motion detection
Storage management
Recording
File location
Iris adjustment
View log file
View user information
View parameters
Factory default
UPnP
UPnP Setting
Enable UPnP
Enable UPnP port forwarding
Friendly name
NVO62
Save

UPnP Setting

- **Enable UPnP**
  When the UPnP is enable, whenever the IP Camera is presented to the LAN, the icon of the connected IP Cameras will appear in My Network Places to allow for direct access as shown below.



NOTE: To enable this function, please make sure the UPnP component is installed on your computer. Please refer to Enable UPnP discovery for the Windows 7 procedure.

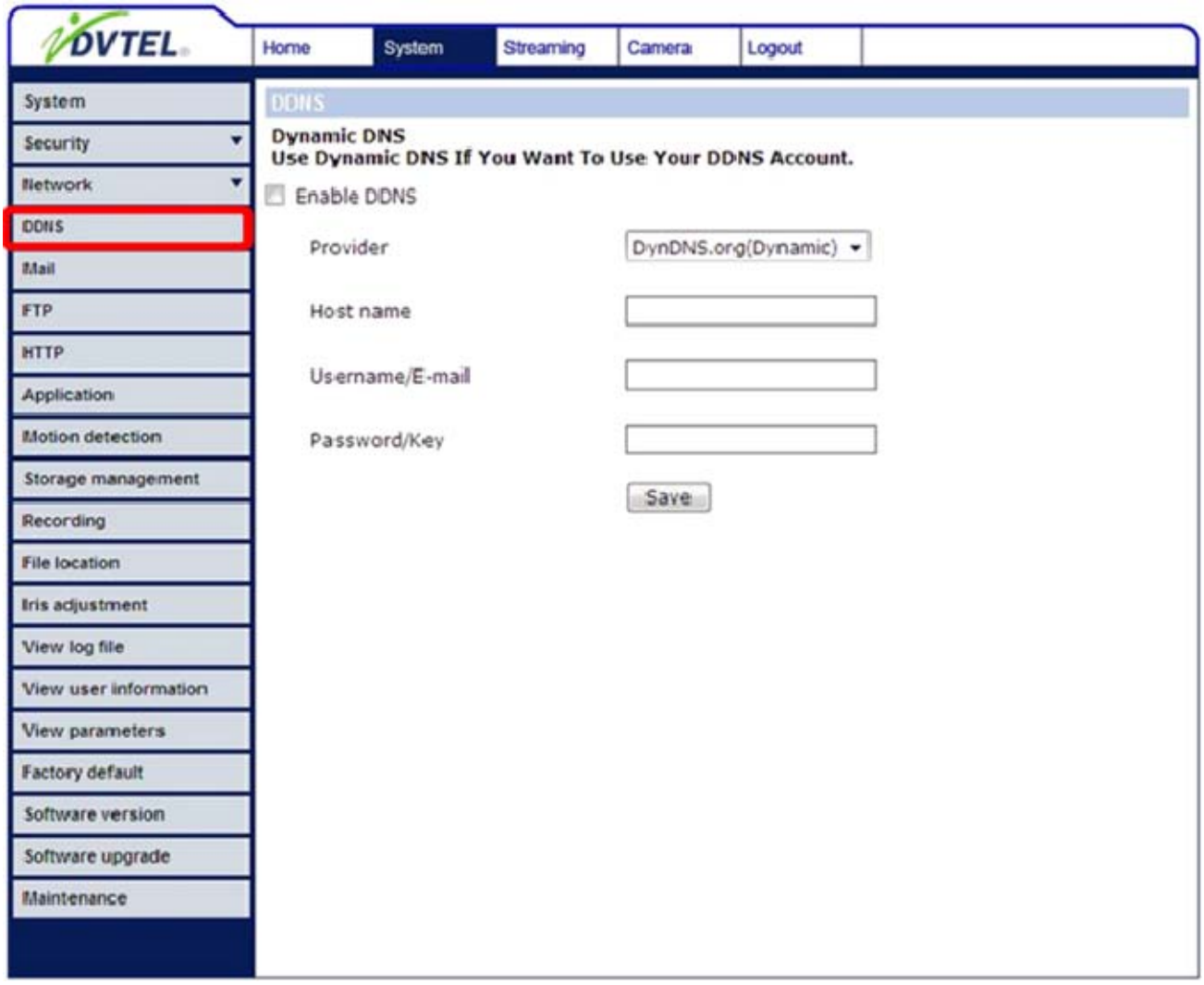
- **Enable UPnP port forwarding**
  When the UPnP port forwarding is enabled, the IP Camera is allowed to open the web server port on the router automatically.

NOTE: To enable this function, please make sure that your router supports UPnP and it is activated

- **Friendly name**
  Set the name for the IP Camera for identity.

6.3.4 DDNS

Dynamic Domain Name System (DDNS) allows a host name to be constantly synchronized with a dynamic IP address. In other words, it allows those using a dynamic IP address to be associated to a static domain name so others can connect to it by name.



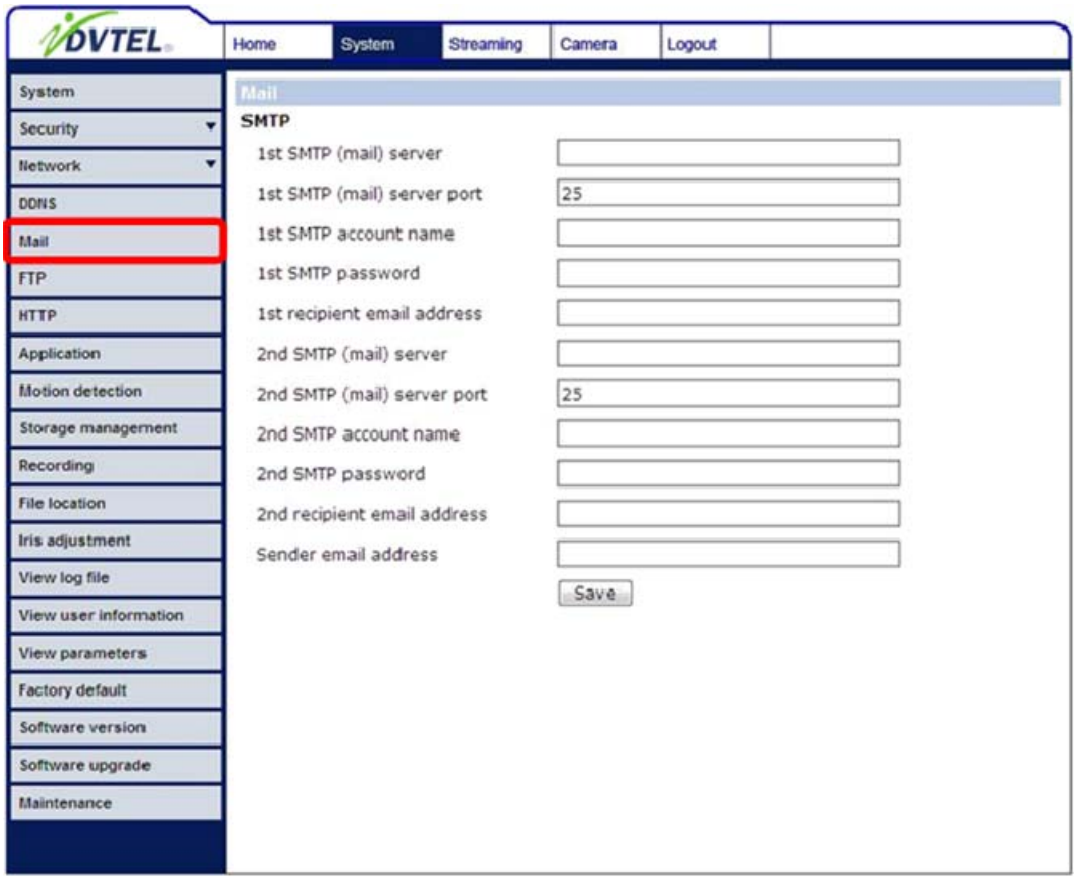
Enable DDNS

Check the item to enable DDNS.

- **Provider**
  Select one DDNS host from the provider list.
- **Host name**
  Enter the registered domain name in the field.
- **Username/E-mail**
  Enter the username or e-mail required by the DDNS provider for authentication.
- **Password/Key**
  Enter the password or key required by the DDNS provider for authentication.

6.3.5 Mail

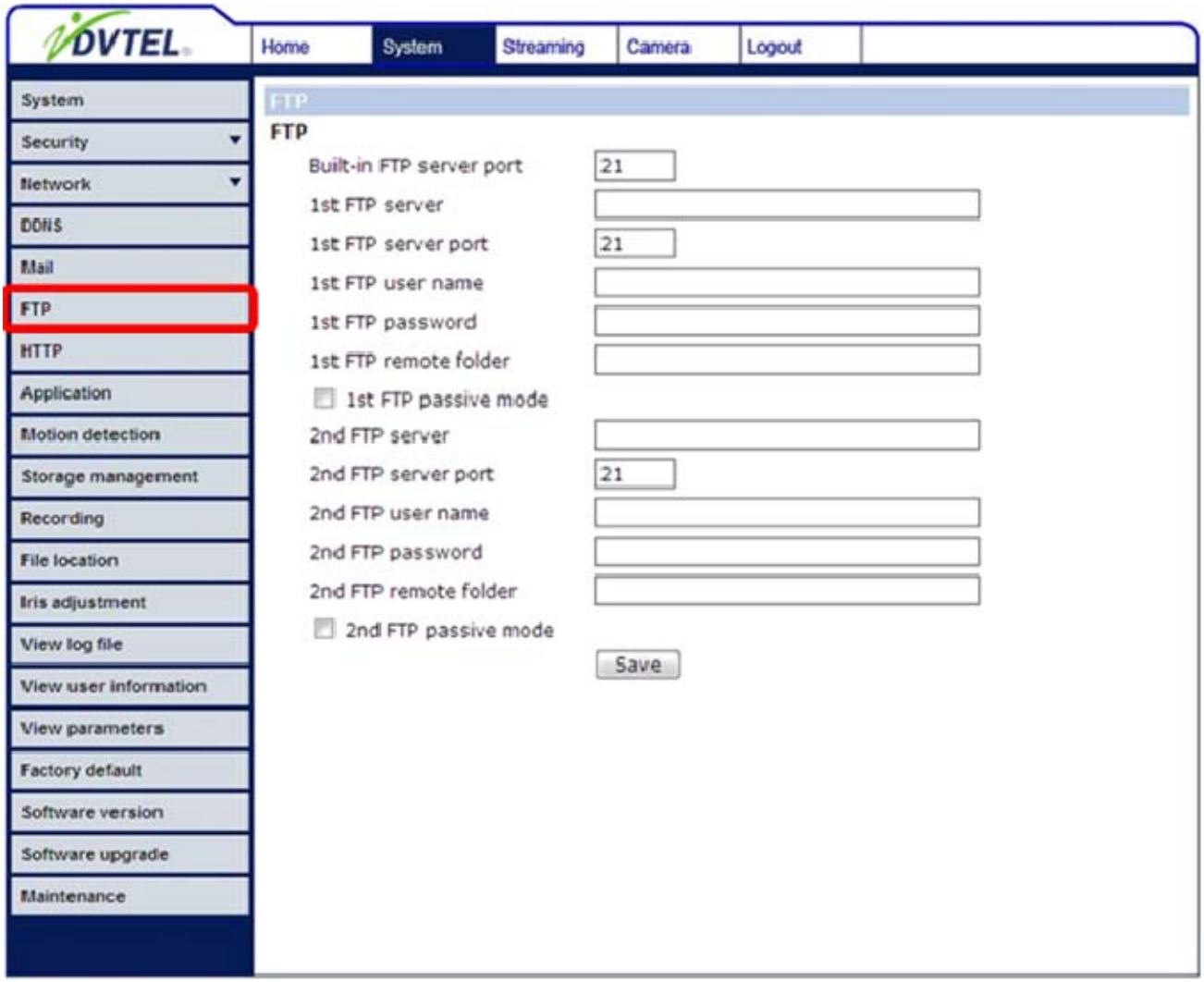
The Administrator can send an e-mail via Simple Mail Transfer Protocol (SMTP) when an alarm is triggered. SMTP is a protocol for sending e-mail messages between servers. SMTP is a relatively simple, text-based protocol, where one or more recipients of a message are specified and the message text is transferred. The configuration page is shown as follows:



Two sets of SMTP can be configured. Each set includes SMTP Server, Account Name, Password and E-mail Address settings. For SMTP server, contact your network service provider for more specific information.

6.3.6 FTP

The Administrator can set as sending alarm message to a specific File Transfer Protocol (FTP) site when motion is detected. Users can assign alarm message to up to two FTP sites. The FTP setting page is shown below. Enter the FTP details, which include server, server port, user name, password and remote folder, in the fields. Press "**Save**" when finished.

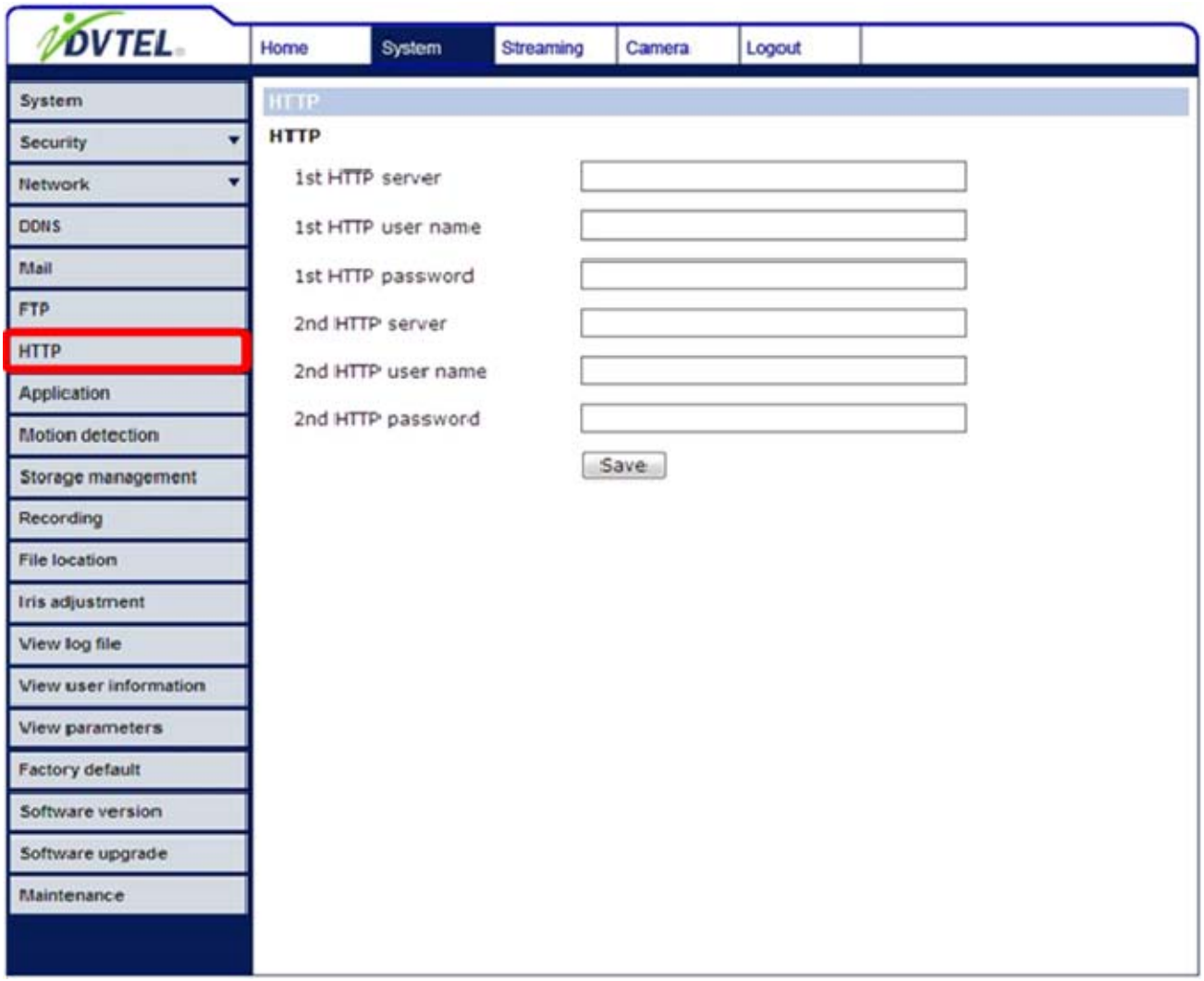


6.3.7 HTTP

A HTTP Notification server can listen for notification messages from IP Cameras by triggered events. The HTTP setting page is shown below. Enter the HTTP details, which include server,

user name, and password in the fields. <Alarm> triggered and <Motion Detection> notifications can be sent to the specified <HTTP> server.

Click "**Save**" when finished.

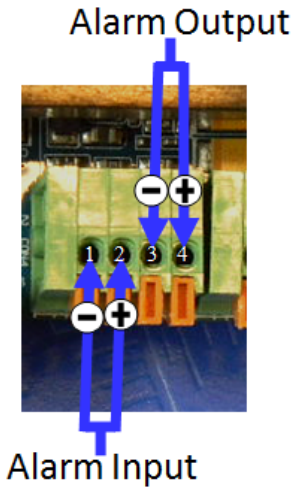


Please refer to: 7.3.8 Application: Send HTTP notification/ 7.3.9 Motion Detection for HTTP Notification settings.

6.3.8 Application

The IP Camera has one alarm input and one relay output for connection to external alarm devices. Refer to alarm pin definition below to connect alarm devices to the IP Camera if needed. The alarm configuration page is also shown below.

Alarm Pin Definition

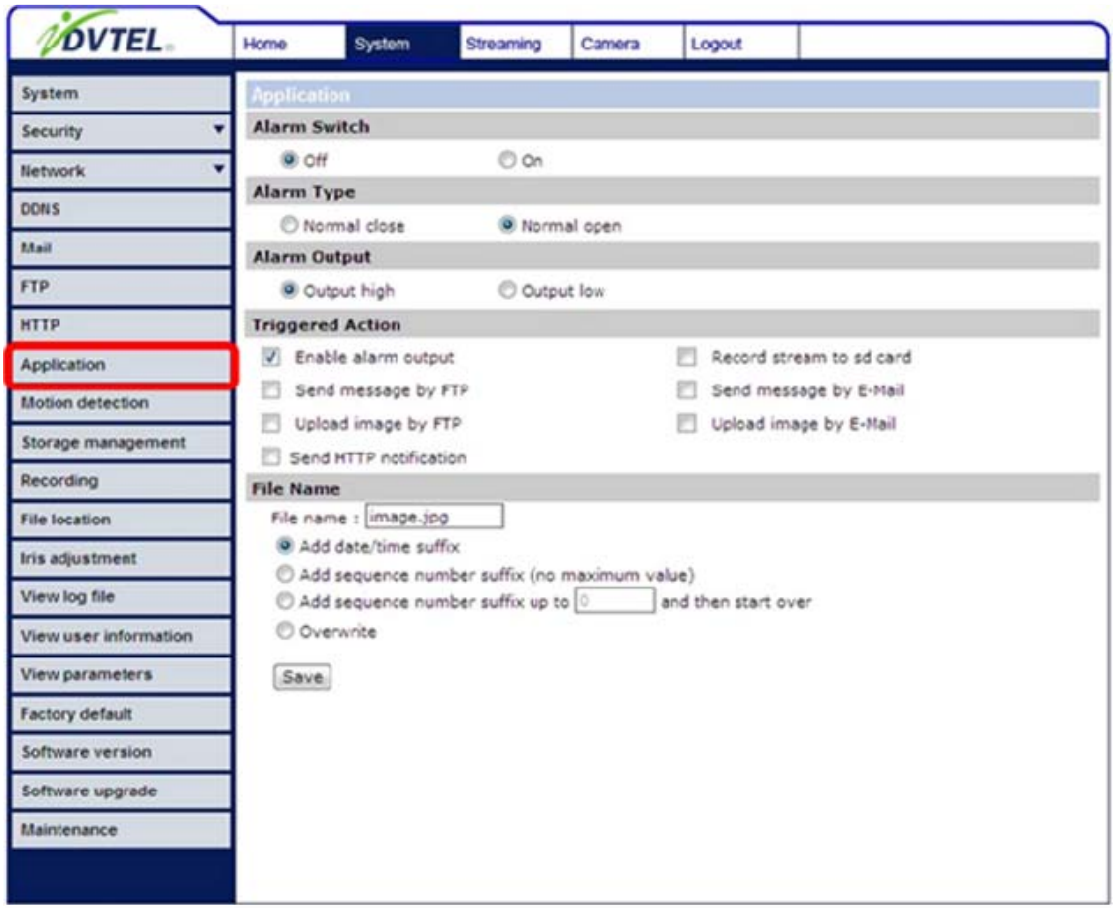


PIN 1. Input-

PIN 2. Input+

PIN 3. Output-

PIN 4. Output+



Alarm Switch

The Administrator can enable or disable the alarm function.

Alarm Type

Select an alarm type, "**Normal close**" or "**Normal open**," that corresponds with the alarm application.

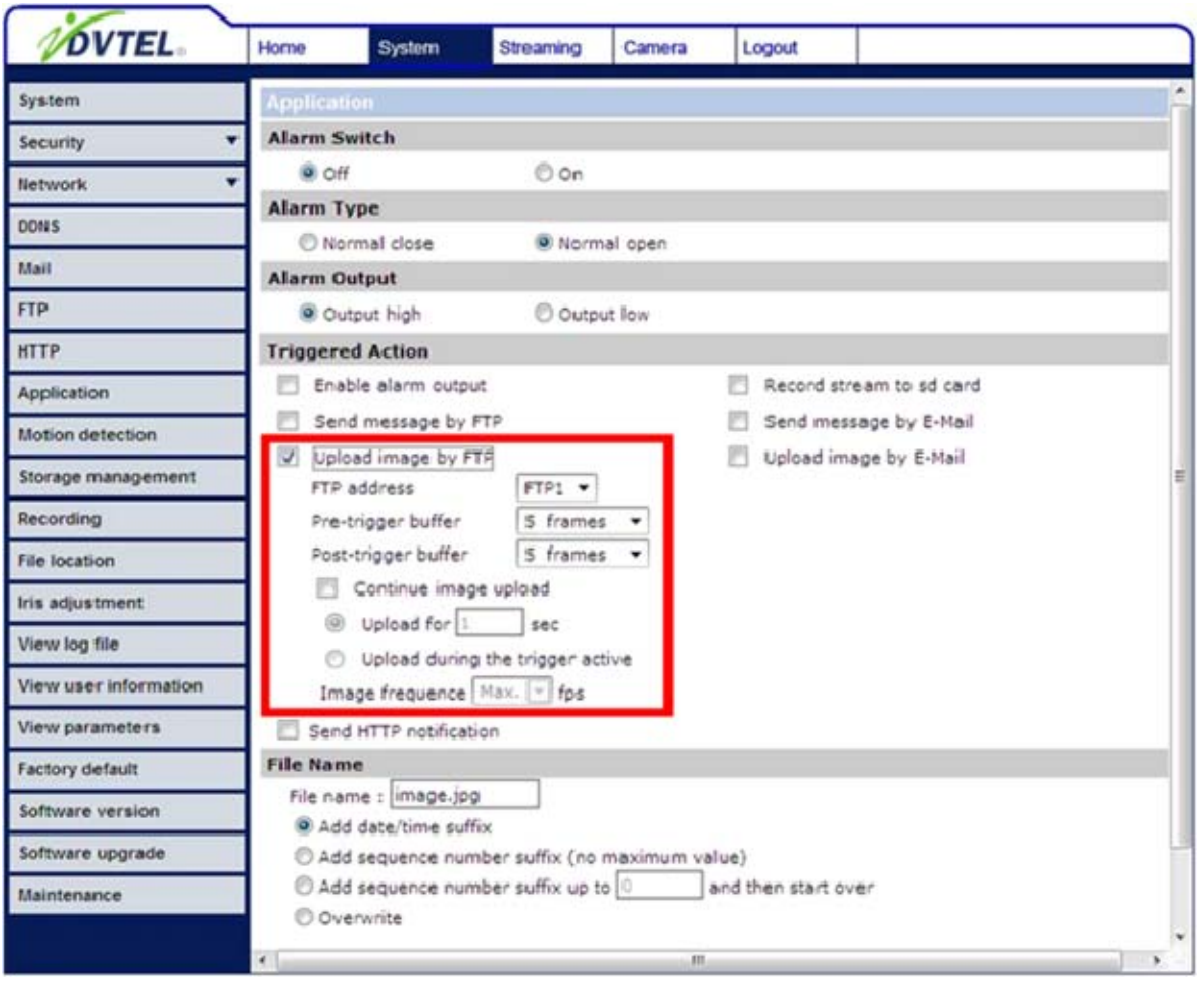
Alarm Output

Define alarm output signal "high" or "low" as the normal alarm output status according to the current alarm application.

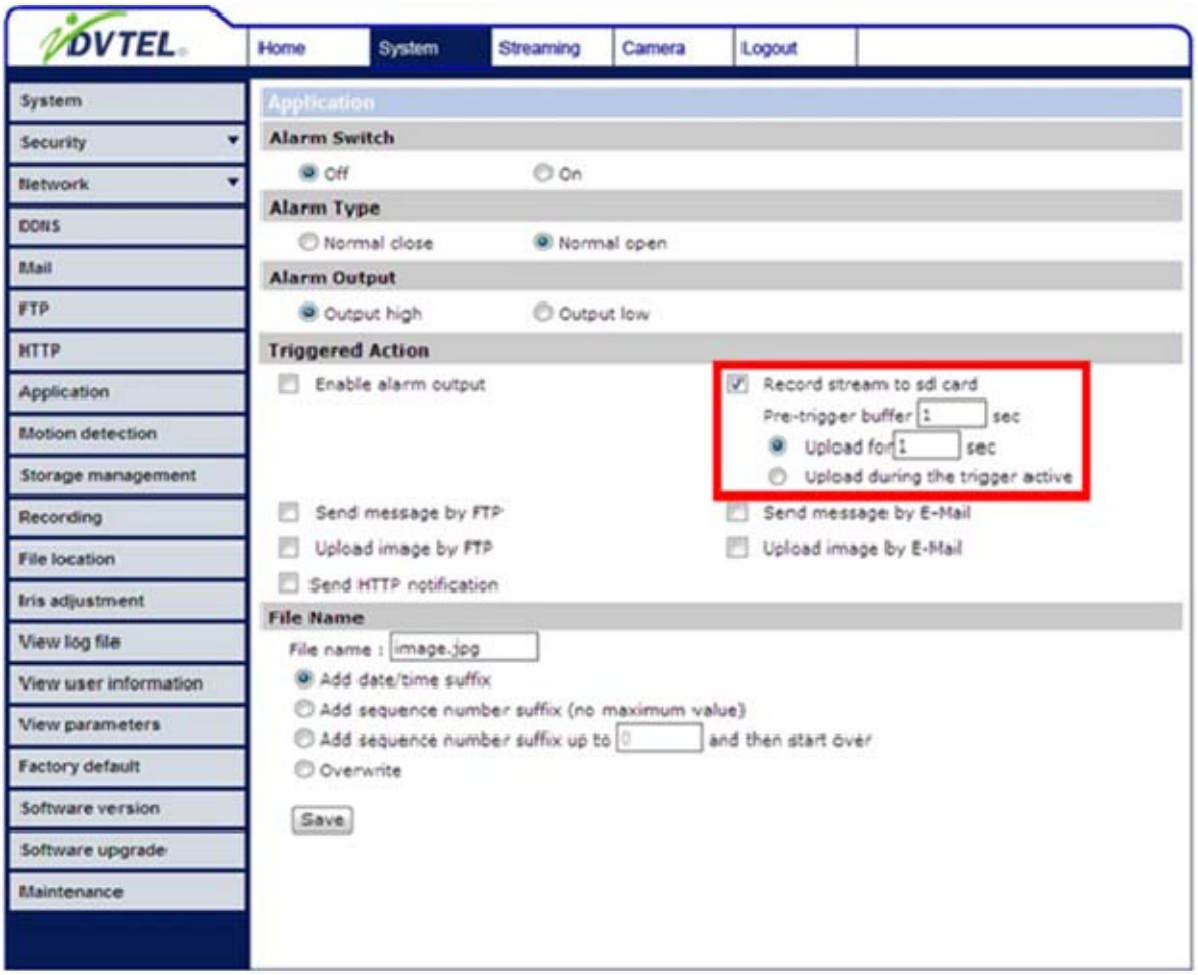
Triggered Action (Multi-option)

The Administrator can specify alarm actions that will take when the alarm is triggered. All options are listed as follows:

- **Enable Alarm Output**
  Select the item to enable alarm relay output.
- **Send Alarm Message by FTP/E-Mail**
  The Administrator can select whether to send an alarm message by FTP and/or E-Mail when an alarm is triggered.
- **Upload Image by FTP**
  Select this item, and the Administrator can assign a FTP site and configure various parameters as shown in the figure below. When the alarm is triggered, event images will be uploaded to the appointed FTP site.

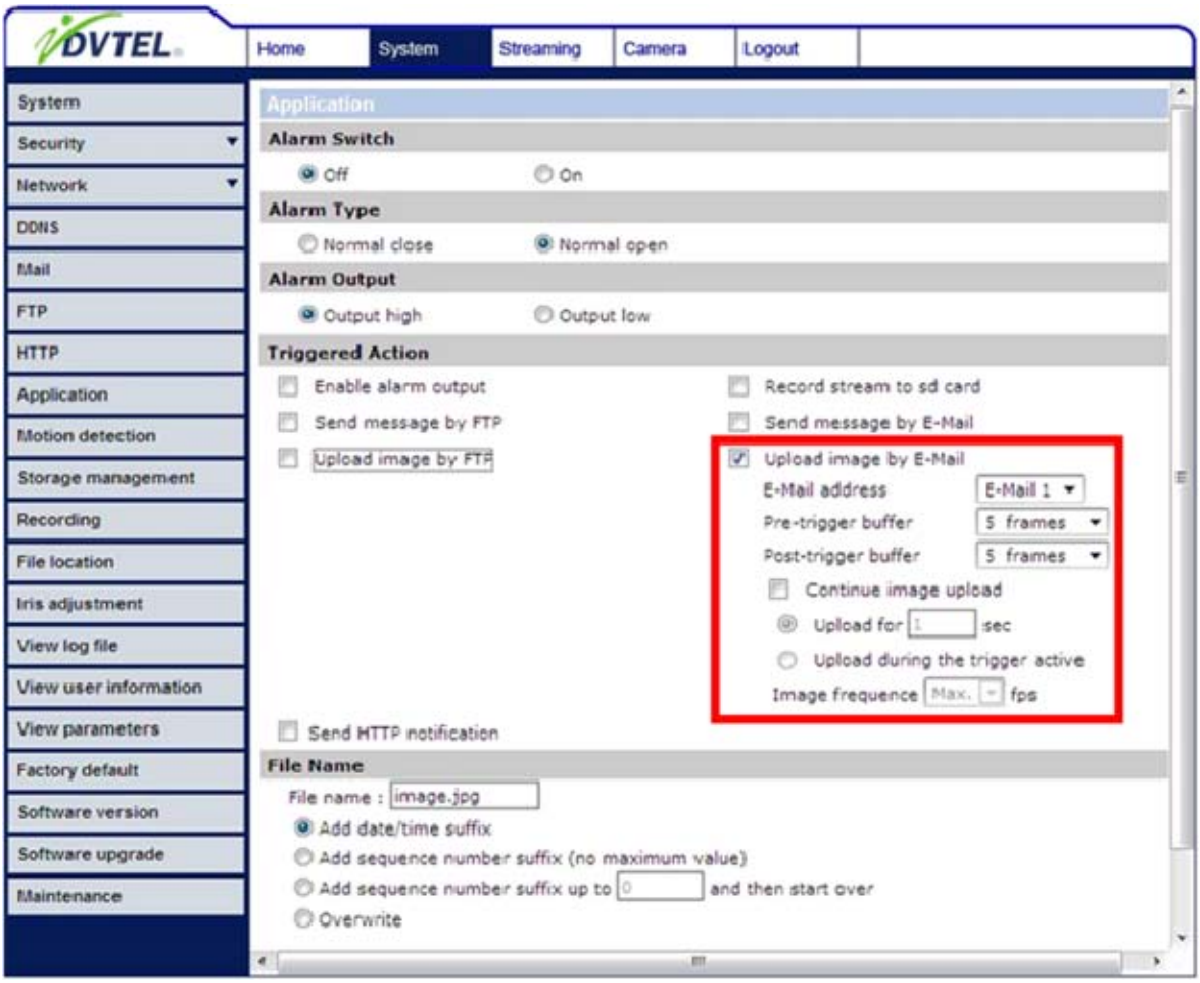


- **Record Stream to SD Card**
  Select the item, and the alarm-triggered recording will be saved into your Micro SD card.



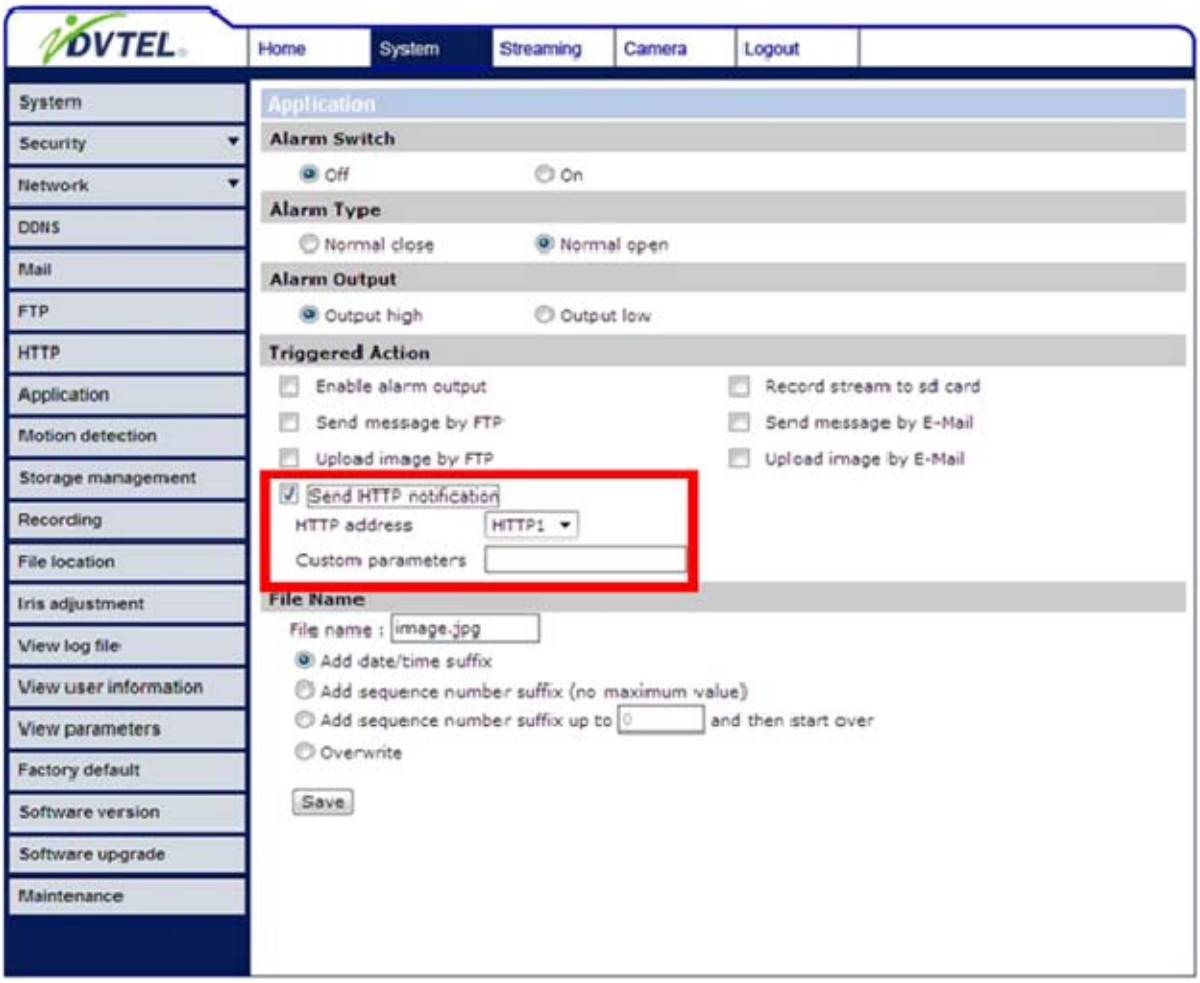
NOTE: Please make sure the local recording (with Micro SD/ SDHC card) is activated so that this function can be implemented. See section Recording for further details.

- **Upload Image by E-Mail**
  Select this item, and the Administrator can assign an e-mail address and configure various parameters as shown in the figure below. When the alarm is triggered, event images will be sent to the appointed e-mail address.



NOTE: Make sure SMTP or FTP configuration has been completed. See section Mail and FTP for further details.

- **Send HTTP notification**
  Check this item, select the destination HTTP address, and specify the parameters for event notifications by <Alarm> triggered. When an alarm is triggered, the notification can be sent to the specified HTTP server.



File Name

Enter a file name in the blank, ex. image.jpg. The uploaded image's file name format can be set in this section. Please select the one that meets your requirements.

- **Add date / time suffix**
  File name: imageYYMMDD_HHNNSS_XX.jpg
  Y: Year, M: Month, D: Day
  H: Hour, N: Minute, S: Second
  X: Sequence Number

- **Add sequence number suffix (no maximum value)**
  File name: imageXXXXXXX.jpg
  X: Sequence Number

- **Add sequence number suffix (limited value)**
  File Name: imageXX.jpg
  X: Sequence Number
  The file name suffix will end at the number being set. For example, if the setting is up to "10," the file name will start from 00, end at 10, and then start all over again.

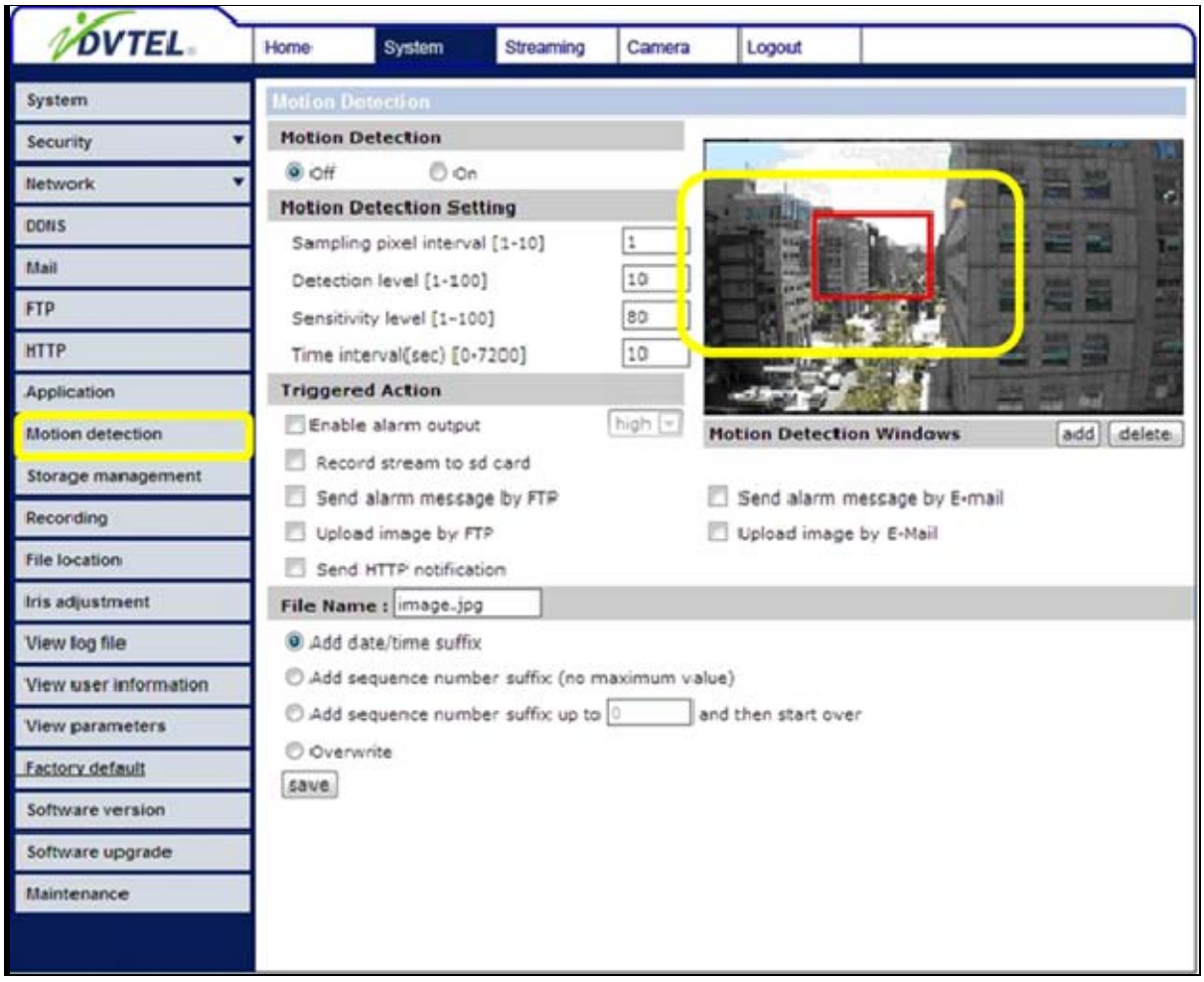
- **Overwrite**
  The original image in the FTP site will be overwritten by the new uploaded file with a static filename.

Save

After complete all the settings mentions above, please click on the Save button to save all the settings in this page.

6.3.9 Motion Detection

Motion Detection function allows detecting suspicious motion and triggering alarms when motion volume in the detected area reaches/exceeds the determined sensitivity threshold value.

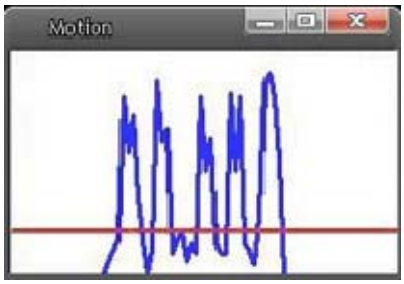


In the Motion Detection setting page, there is a frame (**Motion Detection Window**) displayed on the Live View Pane. The Motion Detection Window is for defining the motion detection area. To change the size of the Motion Detection Window, move the mouse cursor to the edge of the frame and draw it outward/inward. Moving the mouse to the center of the frame can shift the frame to the intended location.

Up 10 Motion Detection Windows can be set. Press the "**Add**" button under the Live Video Pane to add a Motion Detection Window. To cancel a Motion Detection Window, move the mouse cursor to the selected Window, and click on the "**Delete**" button.

If Motion Detection function is activated, the pop-off window (Motion) with indication of motion will be shown.

When motion is detected, the signals will be displayed on the Motion window as shown below.



Detailed settings of Motion Detection are described as follows:

Motion Detection
You will be able to turn on/off Motion Detection in System section. Default setting is Off.

Motion Detection Setting
Users could adjust various parameters of Motion Detection in this section.

- **Sampling pixel interval [1-100]:**
  The default value is 10, which means system will take one sampling pixel for every 10 pixel.
- **Detection level [1-100]:**
  The default level is 10. The item is to set detection level for each sampling pixel; the smaller the value, the more sensitive it is.
- **Sensitivity level [1-100]:**
  The default level is 80, which means if 20% or more sampling pixels are detected differently, system will detect motion. The bigger the value, the more sensitive it is. Meanwhile, when the value is bigger, the red horizontal line in the motion indication window will be lower accordingly.
- **Time interval (sec) [0-7200]:**
  The default interval is 10. The value is the interval between each detected motion.

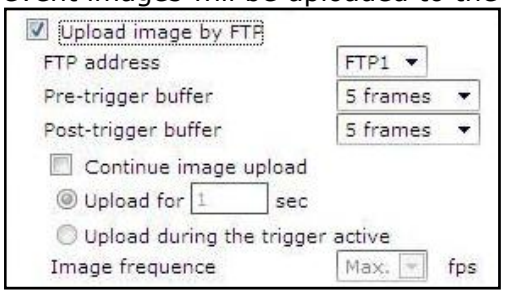
Triggered Action (Multi-option)

The Administrator can specify alarm actions that will take when motion is detected. All options are listed as follows:

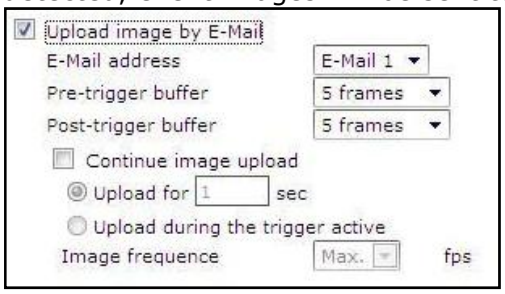
- **Enable Alarm Output**
  Check the item and select the predefined type of alarm output to enable alarm relay output when motion is detected.
- **Record stream to SD Card**
  Select this item, and the Motion Detection recording will be stored in Micro SD/ SDHC card when motion is detected.

NOTE: Please make sure the local recording (with Micro SD/ SDHC card) is activated so that this function can be implemented. See section Recording for further details.

- **Send Alarm Message by FTP/E-Mail**
  The Administrator can select whether to send an alarm message by FTP and/or E-Mail when motion is detected.
- **Upload Image by FTP**
  Select this item, and the Administrator can assign a FTP site and configure various parameters as shown in the figure below. When motion is detected, event images will be uploaded to the appointed FTP site.

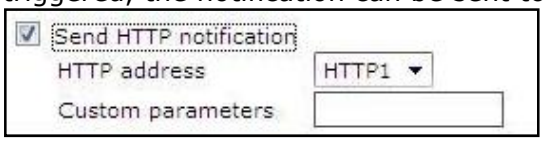


- **Upload Image by E-Mail**
  Select this item, and the Administrator can assign an e-mail address and configure various parameters as shown in the figure below. When motion is detected, event images will be sent to the appointed e-mail address.



NOTE: Make sure SMTP or FTP configuration has been completed. See section Mail and FTP for further details.

- **Send HTTP notification**
  Check this item, select the destination HTTP address, and specify the parameters for event notifications by <Motion Detection> triggered. When an alarm is triggered, the notification can be sent to the specified HTTP server.



File Name

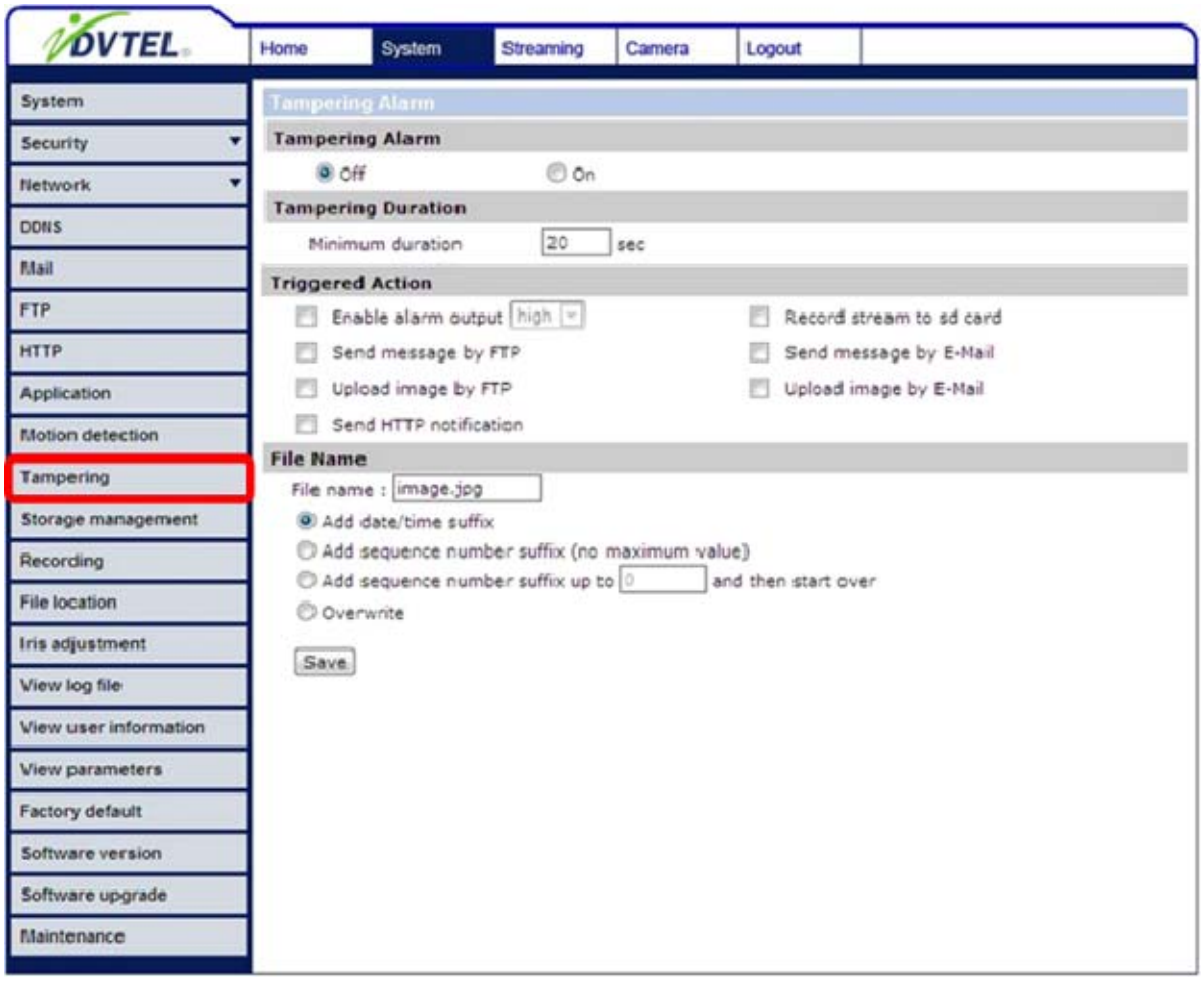
The uploaded image's filename format can be set in this section. Please select the one that meets your requirements.

Save

Click the Save button to save all the Motion Detection settings mentioned above.

6.3.10 Tampering

Tampering Alarm function helps the IP Camera against tampering such as deliberate redirection, blocking, paint spray, and lens cover, etc through video analysis and reaction to such events by sending out notifications or uploading snapshots to the specified destination(s).



Detection of camera tampering is achieved by measuring the differences between the older frames of video (which are stored in buffers) and more recent frames.

Tampering Alarm

You will be able to turn on/off Tampering Alarm function in Tampering Alarm setting page. The default setting is Off.

Tampering Duration

Minimum Tampering Duration is the time for video analysis to determine whether camera tampering has occurred. Minimum Duration could also be interpreted as defining the Tampering threshold; longer duration represents higher threshold. Settable Tampering Duration time range is from 10 to 3600 seconds.

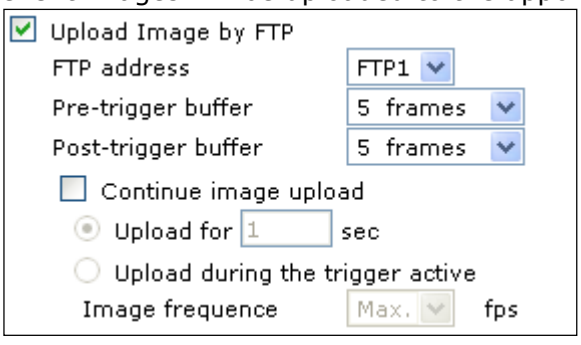
Triggered Action (Multi-option)

The Administrator can specify alarm actions that will take when tampering is detected. All options are listed as follows:

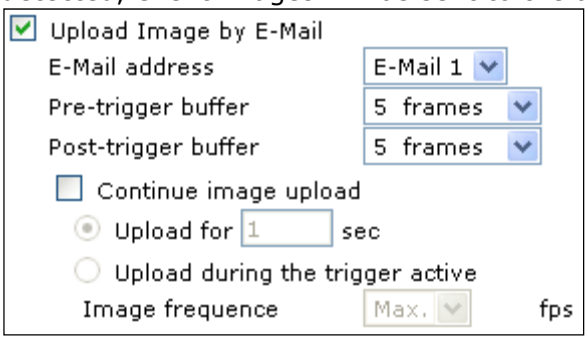
- **Enable Alarm Output**
  Check the item and select the predefined type of alarm output to enable alarm relay output when tampering is detected.
- **Record stream to SD Card**
  Select this item, and the Tampering Alarm recording will be stored in Micro SD/ SDHC card when tampering is detected.

NOTE: Please make sure the local recording (with Micro SD/ SDHC card) is activated so that this function can be implemented. See section Recording for further details.

- **Send Alarm Message by FTP/E-Mail**
  The Administrator can select whether to send an alarm message by FTP and/or E-Mail when tampering is detected.
- **Upload Image by FTP**
  Select this item, and the Administrator can assign a FTP site and configure various parameters as shown in the figure below. When tampering is detected, event images will be uploaded to the appointed FTP site.

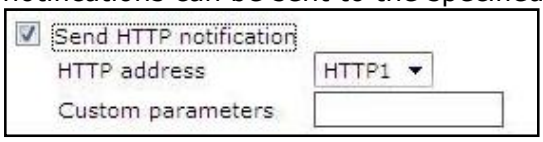


- **Upload Image by E-Mail**
  Select this item, and the Administrator can assign an e-mail address and configure various parameters as shown in the figure below. When tampering is detected, event images will be sent to the appointed e-mail address.



NOTE: Make sure SMTP or FTP configuration has been completed. See section Mail and FTP for further details.

- **Send HTTP notification**
  Check this item, select the destination HTTP address, and specify the parameters for HTTP notifications. When the Tampering Alarm is triggered, the HTTP notifications can be sent to the specified HTTP server.



File Name

The uploaded image's filename format can be set in this section. Please select the one that meets your requirements.

Save

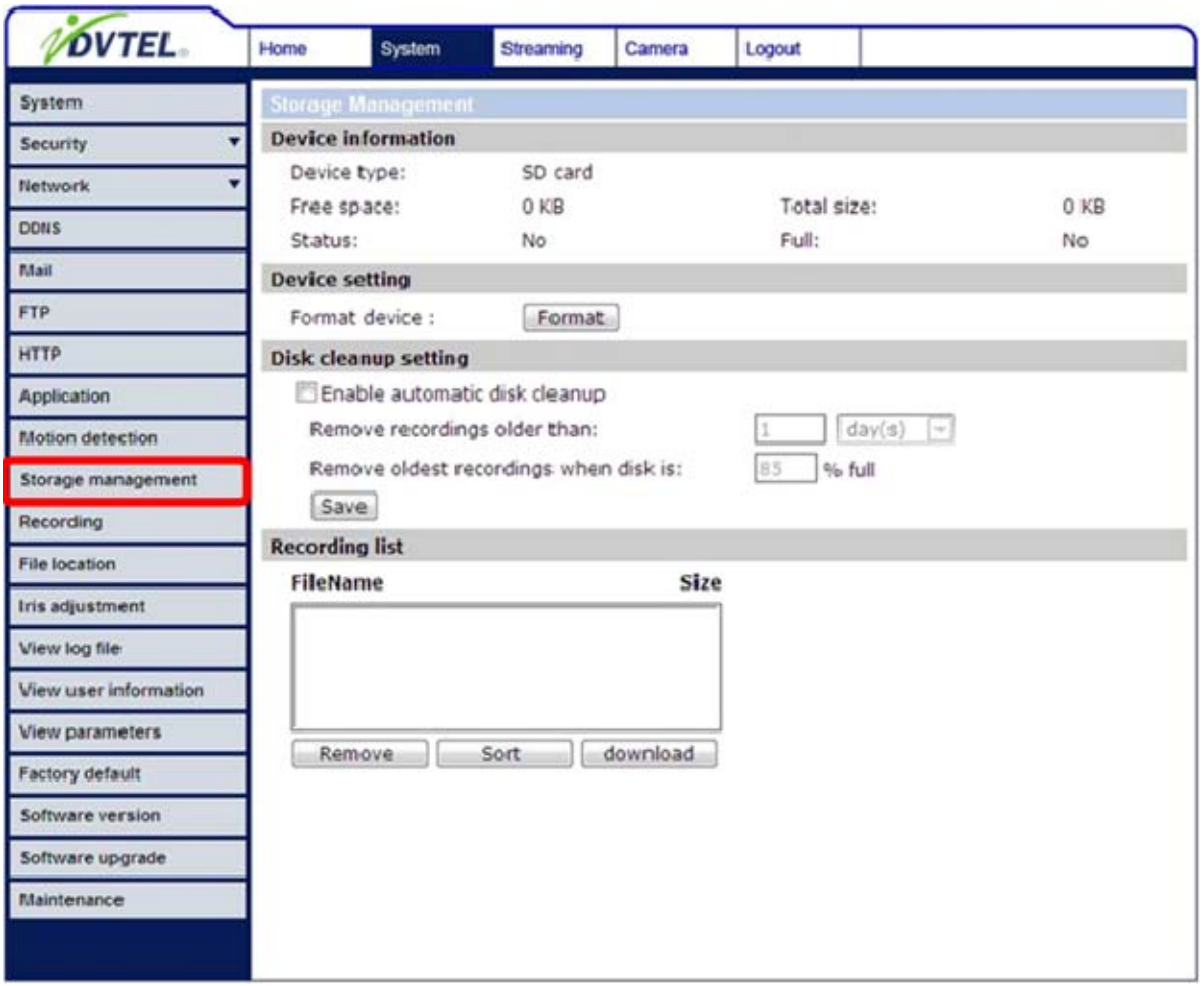
Click the **Save** button to save all the Tampering Alarm settings mentioned above.

6.3.11 Storage Management

Users can implement local recording to the Micro SD/SDHC card up to 32GB. This page shows the capacity information of the Micro SD card and a recording list with all the recording files saved on the memory card. Users can also format the SD card and implement automatic recording cleanup through the setting page.

To implement Micro SD card recording, please go to the "Recording" page (see Recording) for activation.

NOTE: Please format the Micro SD/SDHC card when using for the first time. Formatting will also be required when a memory card already being used on one camera and later transferred to another camera with different software platform.



Device information

When users insert the Micro SD/SDHC card, the card information such as the memory capacity and status will be shown at Device Information section.

For the memory card being successfully installed, its status shall be shown at "Device information" section in the Storage Management page.

Device setting

Press the "**Format**" button to format the memory card.

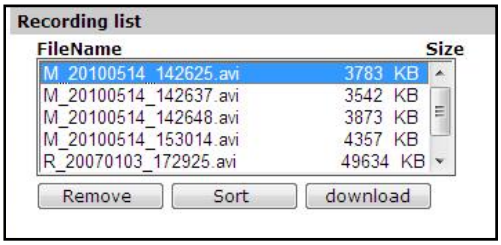
Disk cleanup setting

Users can enable automatic recordings cleanup by specifying the time and storage limits

Recording List

Each video file on the Micro SD/SDHC card will be listed in the Recording list as shown below. The maximum file size is 60 MB (60 MB per file).

When the recording mode is set as "Always" (consecutive recording) and the Micro SD/ SDHC card recording is also allowed to be enabled by events triggered, once events occur, the system will immediately implement events recording to the memory card. Then the IP Camera will return to the regular recording mode after events recording.



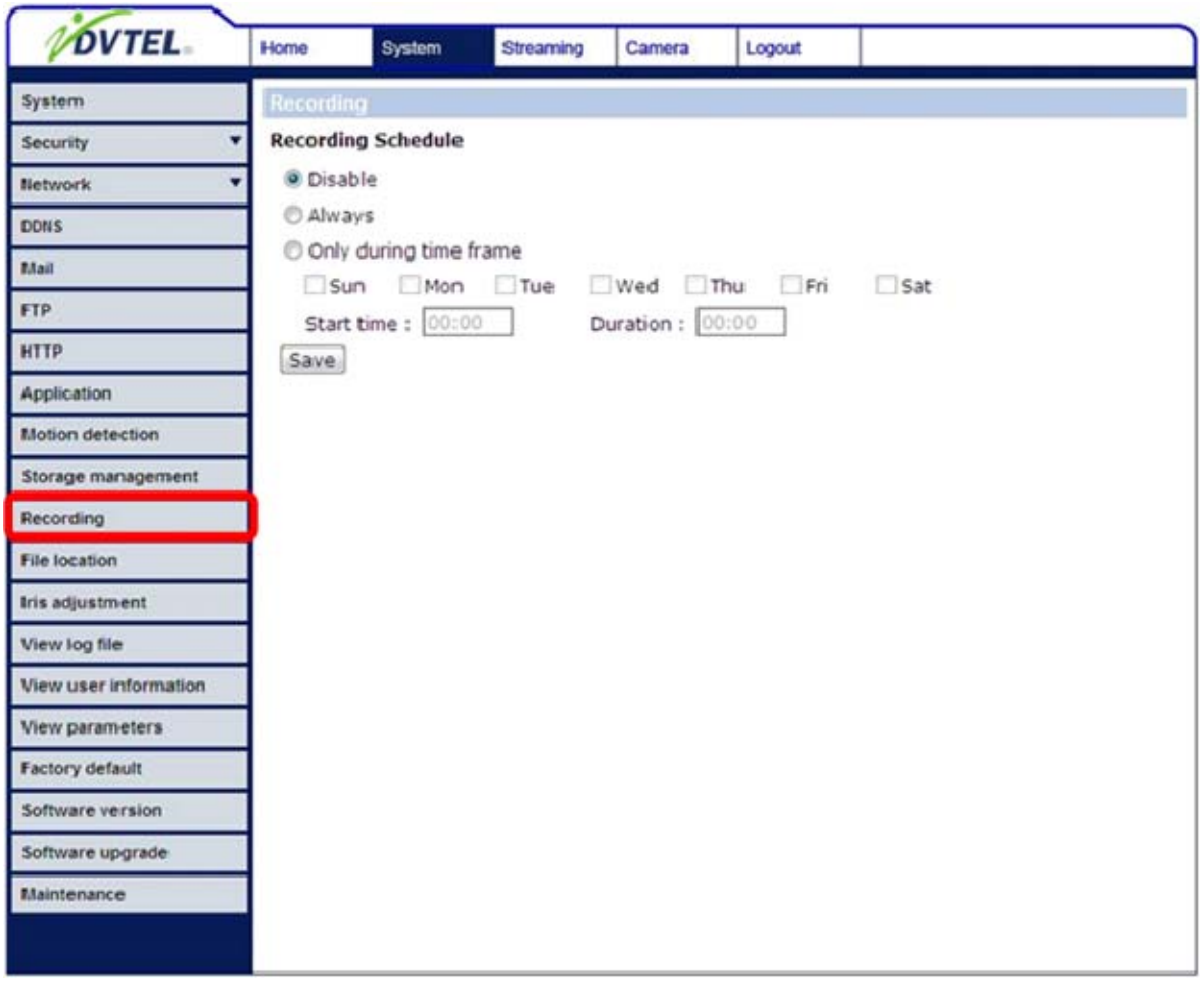
- **Remove**
  To remove a file, select the file first, and then press the "**Remove**" button.
- **Sort**
  Press the "Sort" button, and the files in the Recording list will be listed in name and date order.

NOTE: The capital letter A/M/R appears in the very beginning of name denotes the sort of the recording: A stands for Alarm; M stands for Motion; R stands for regular recording.

- **Download**
  To open/download a video clip, select the file first, and then press the "**Download**" button below the Recording list field. The selected file window will pop up as shown below. Click on the AVI file to directly play the video in the player or download it to a specified location.

6.3.12 Recording

In the Recording setting page, users can specify the recording schedule that fits the present surveillance requirement.



Activating Micro SD/SDHC Card Recording

Two types of schedule mode are offered: Always and Time Frame setting. Users can setup the time frame to fit the recording schedule or choose "Always" to activate Micro SD/SDHC Card Recording all the time.

Please click on the "**Save**" button for confirming the schedule mode.

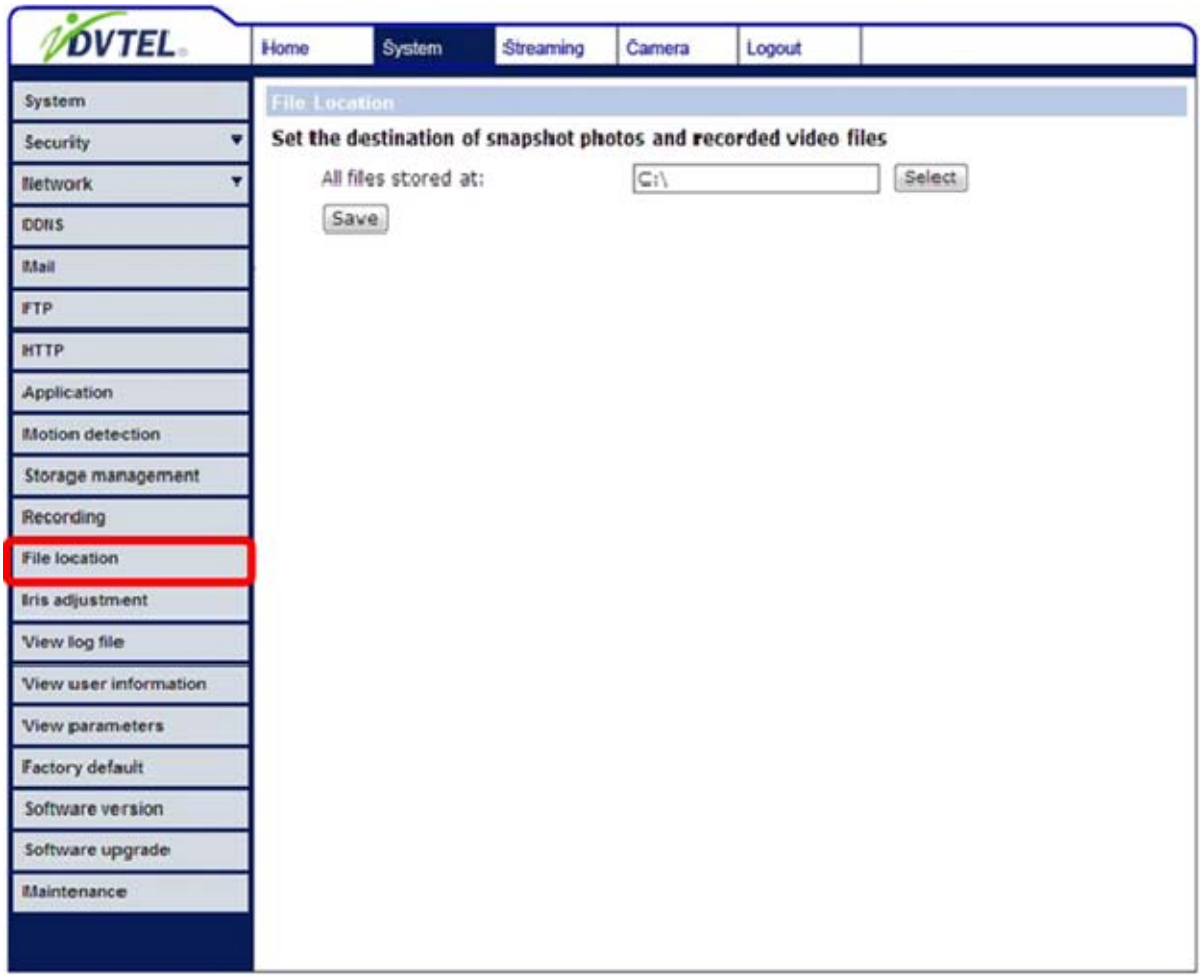
Terminating Micro SD/SDHC Card Recording

Select "**Disable**" to terminate the recording function.

6.3.13 File Location

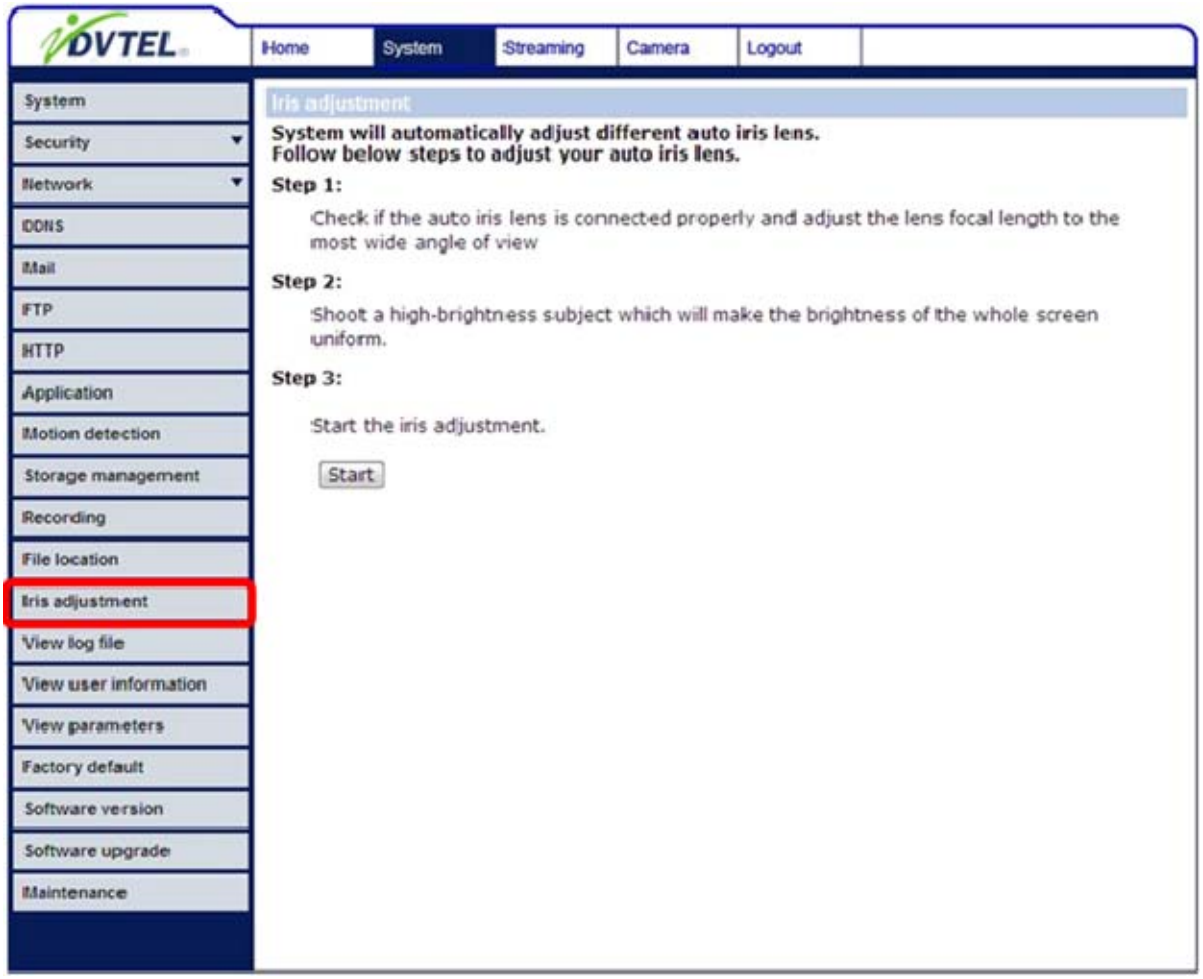
Users can specify a storage location for the snapshots and web recording. The default setting is: C:\. Once confirm the setting, press "**Save**," and all the snapshots and recording will be saved in the designate location.

NOTE: Please make sure the selected file path contains valid characters such as letters and numbers.



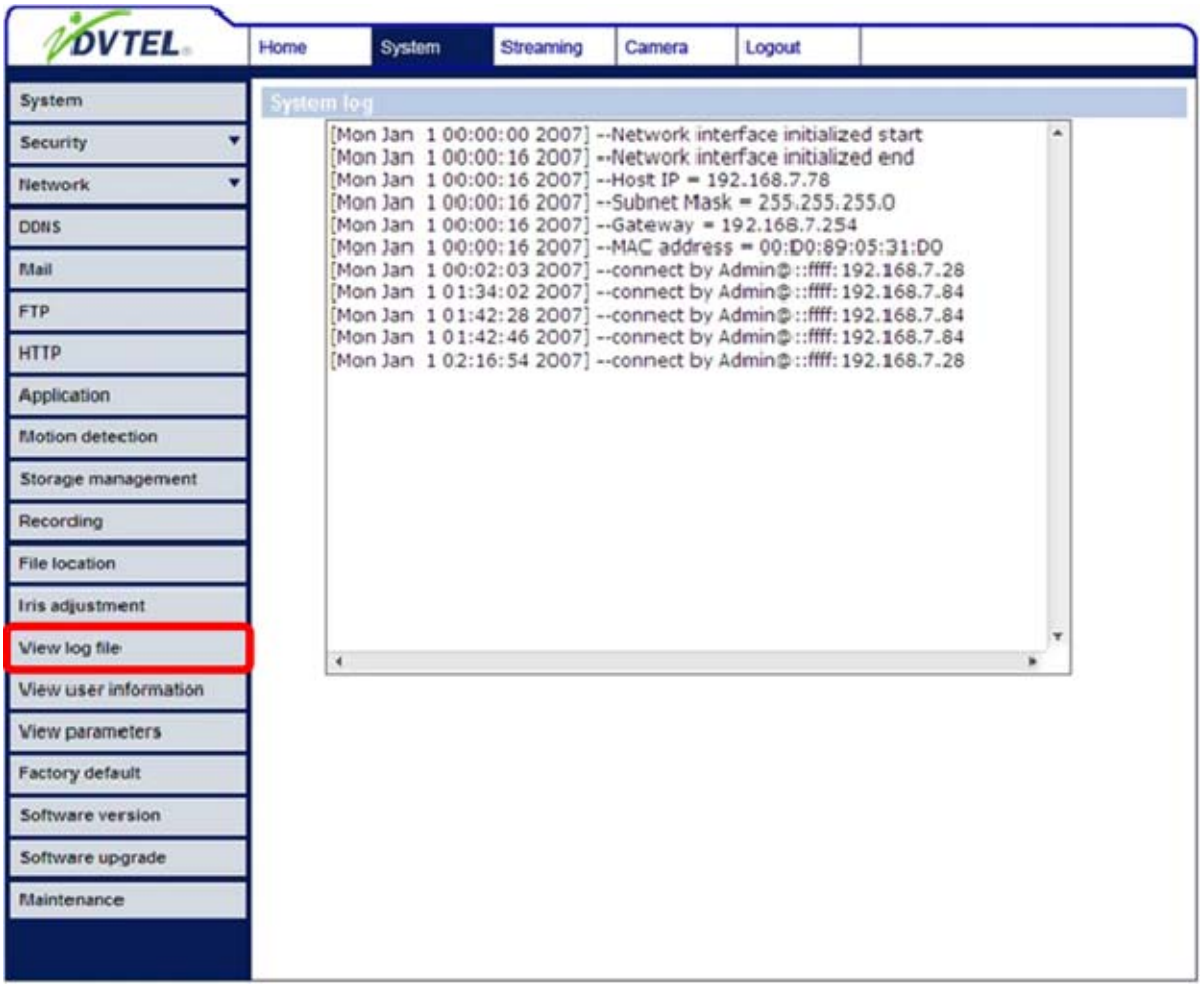
6.3.14 Iris Adjustment

For users who use Auto-iris lens, when it is required to implement iris adjustment, please refer to the Iris adjustment procedure in the setting page to adjust iris.



6.3.15 View Log File

Click on the link to view the system log file. The content of the file provides useful information about configuration and connections after system boot-up.



6.3.16 View User Information

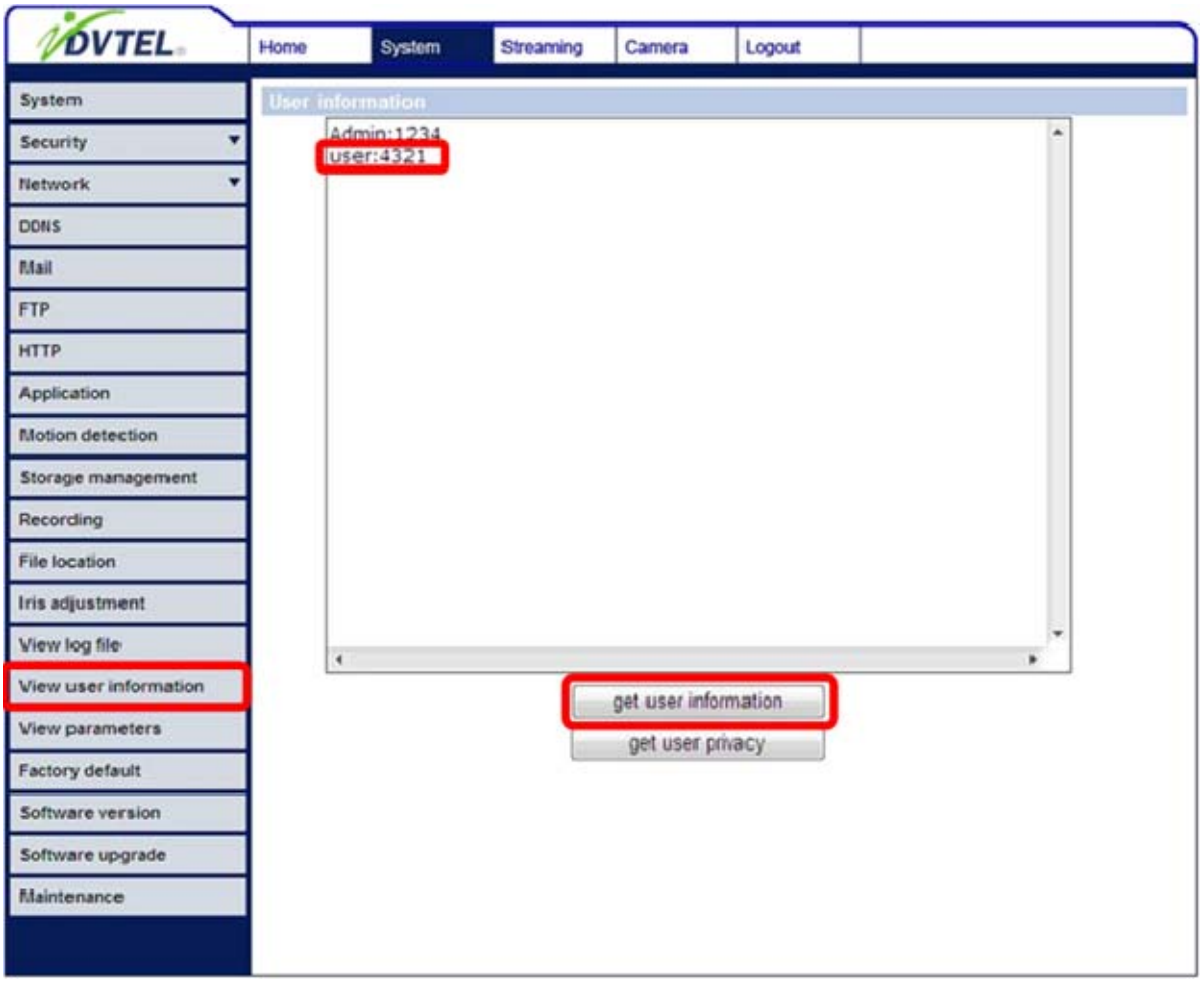
The Administrator can view each added user's login information and privileges (see Security).

View User Login Information

All the users in the network will be listed in the "User information" zone, as shown below. As the figure below shows:

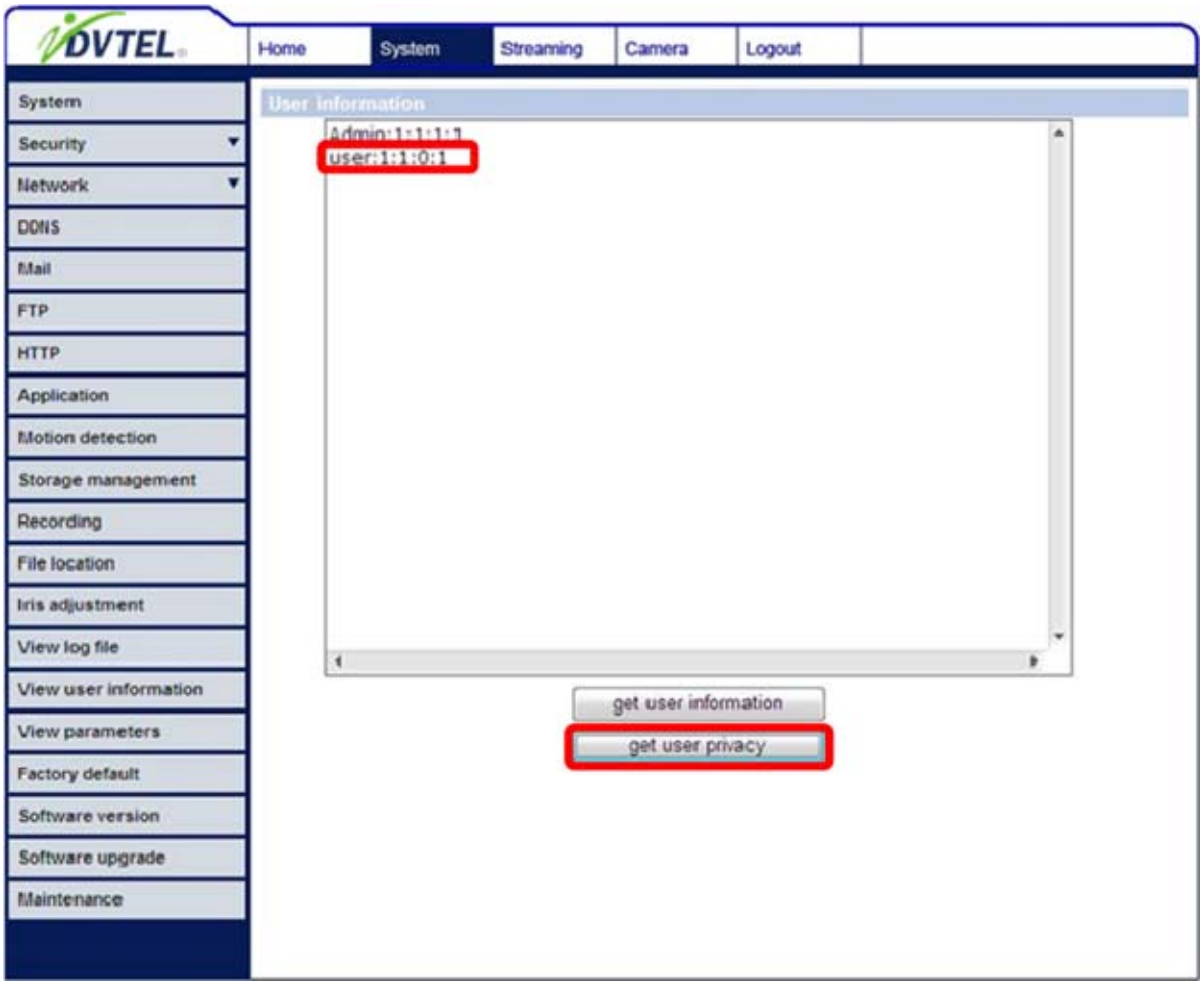
User: 4321

It indicates that one user's login username is: User, and the password is: 4321.



View User Privilege

Press "**Get user privacy**" down the page, and the Administrator can view each user's privileges.



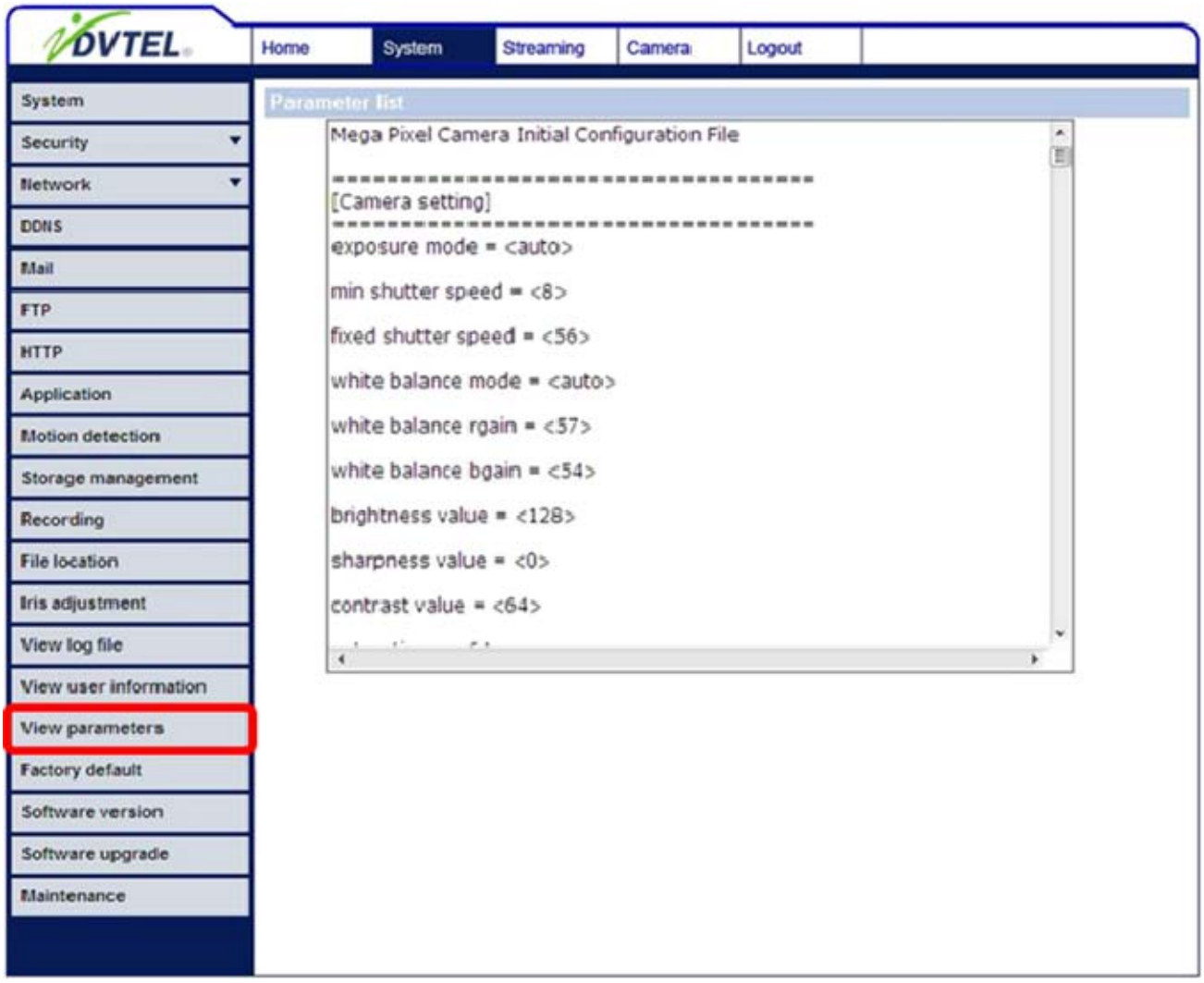
As the figure above shows:

User: 1:1:0:1
1:1:0:1= I/O access : Camera control : Talk : Listen (see Security)

Therefore, it denotes the user is granted privileges of I/O access, Camera control and Listen.

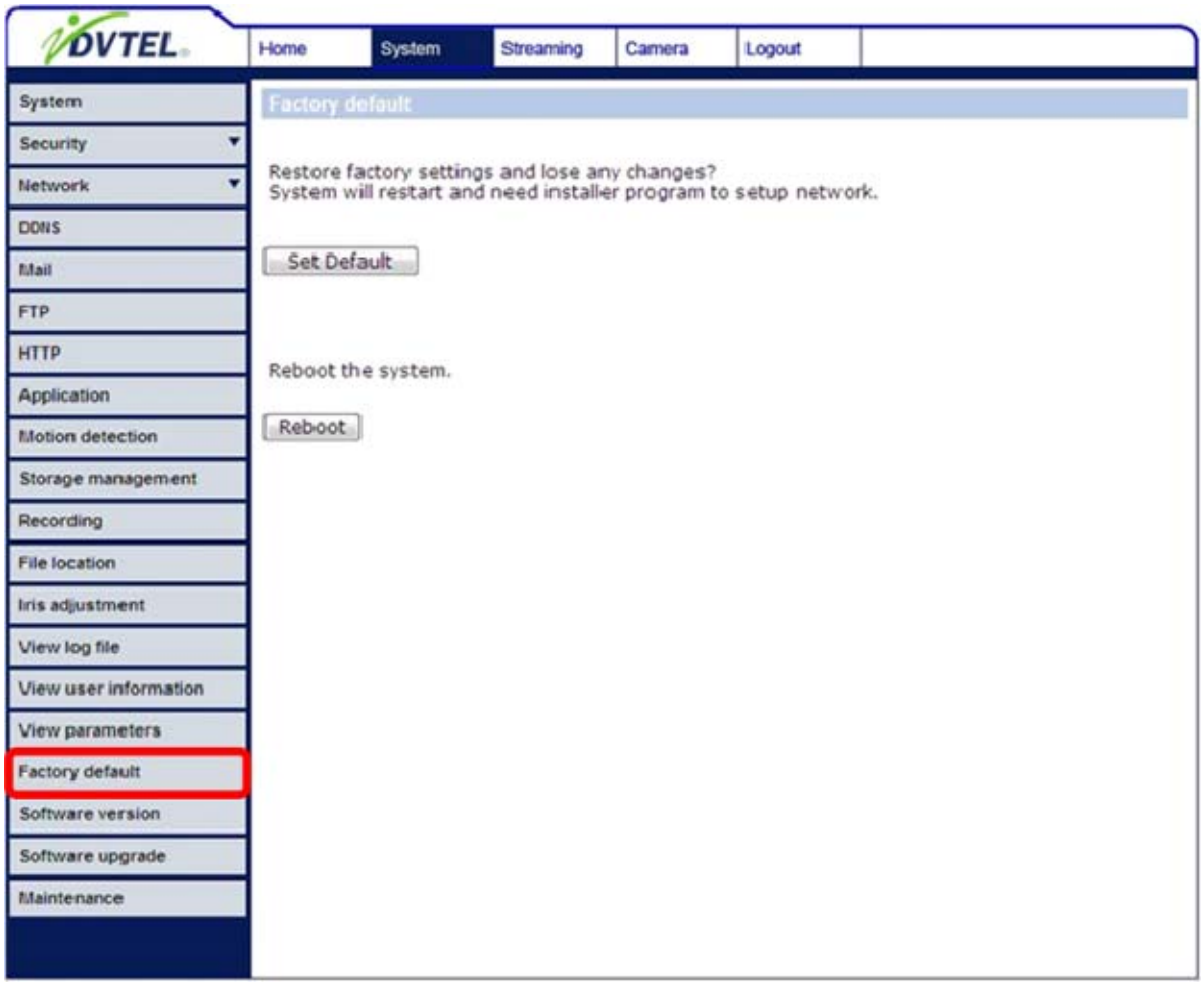
6.3.17 View Parameters

Click on this item to view the entire system's parameter setting.



6.3.18 Factory Default

The factory default setting page is shown as below. Follow the instructions to reset the IP Camera to factory default setting if needed.



Set Default

Click on the "**Set Default**" button to recall the factory default settings. Then the system will restart in 30 seconds.

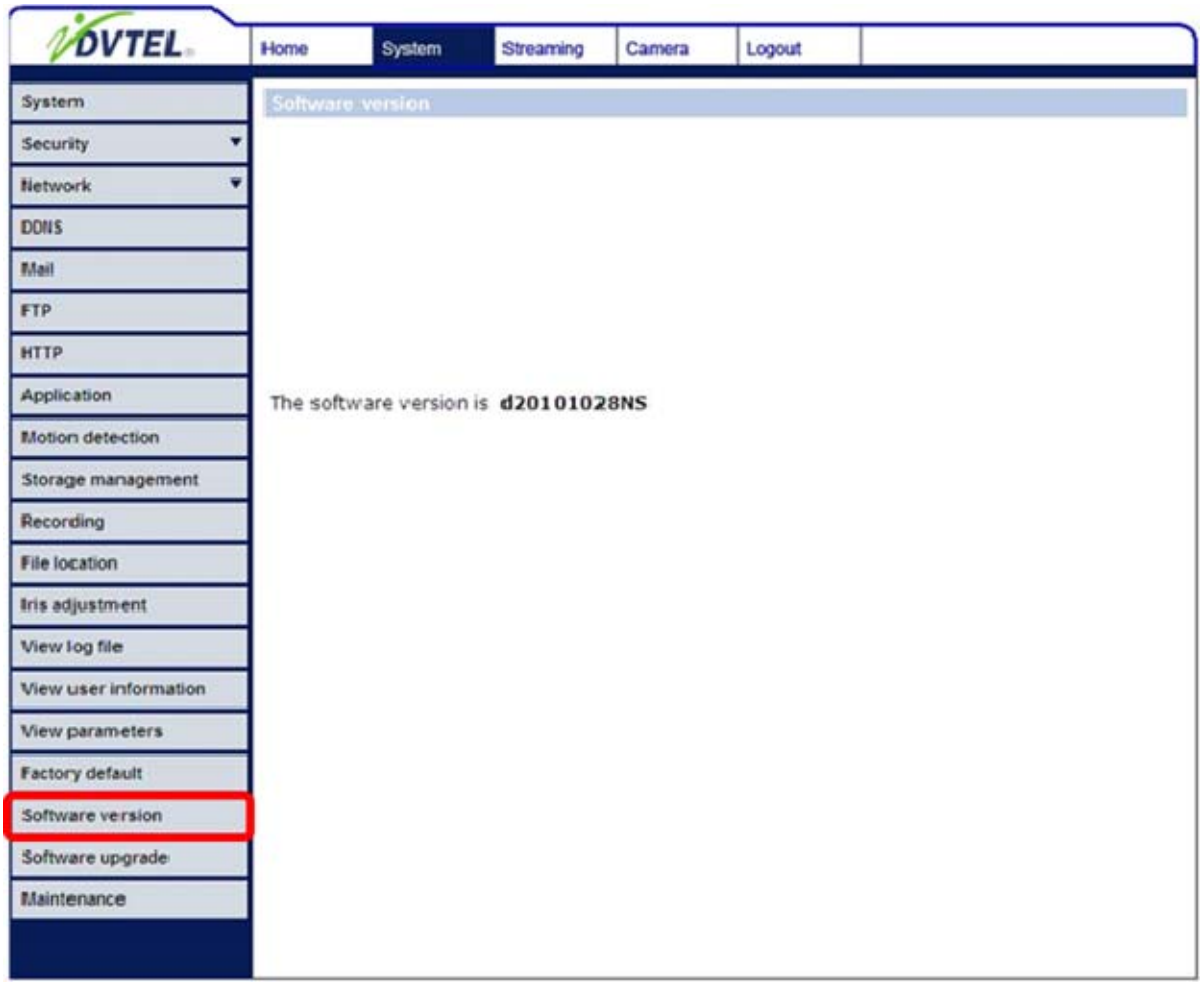
NOTE: The IP address will be restored to default.

Reboot

Click on the "**Reboot**" button, and the system will restart without changing current settings.

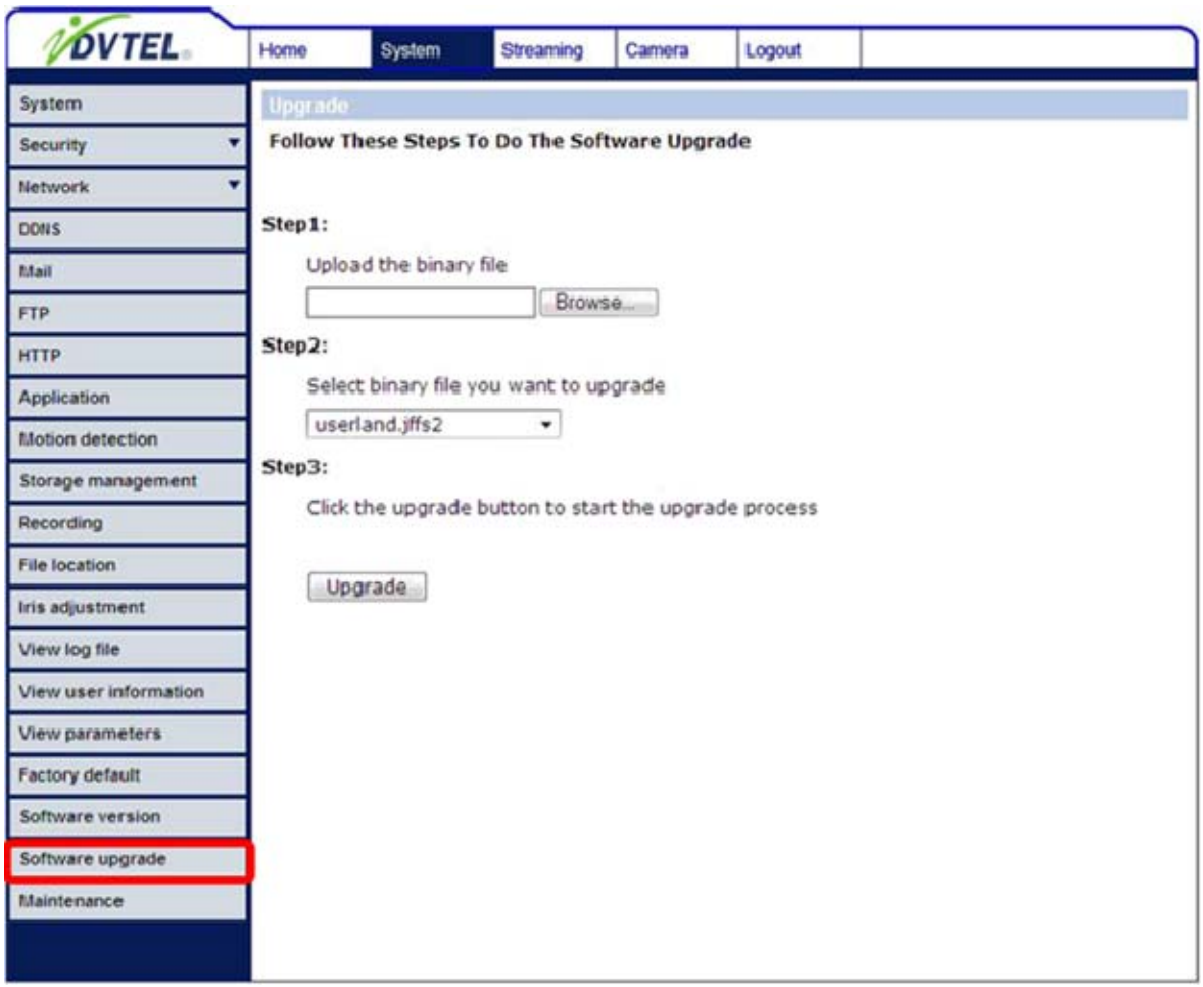
6.3.19 Software Version

The current software version is displayed in the software version page, which is shown as the figure below.



6.3.20 Software Upgrade

Software upgrade can be carried out in the "Software Upgrade" page, as shown below.

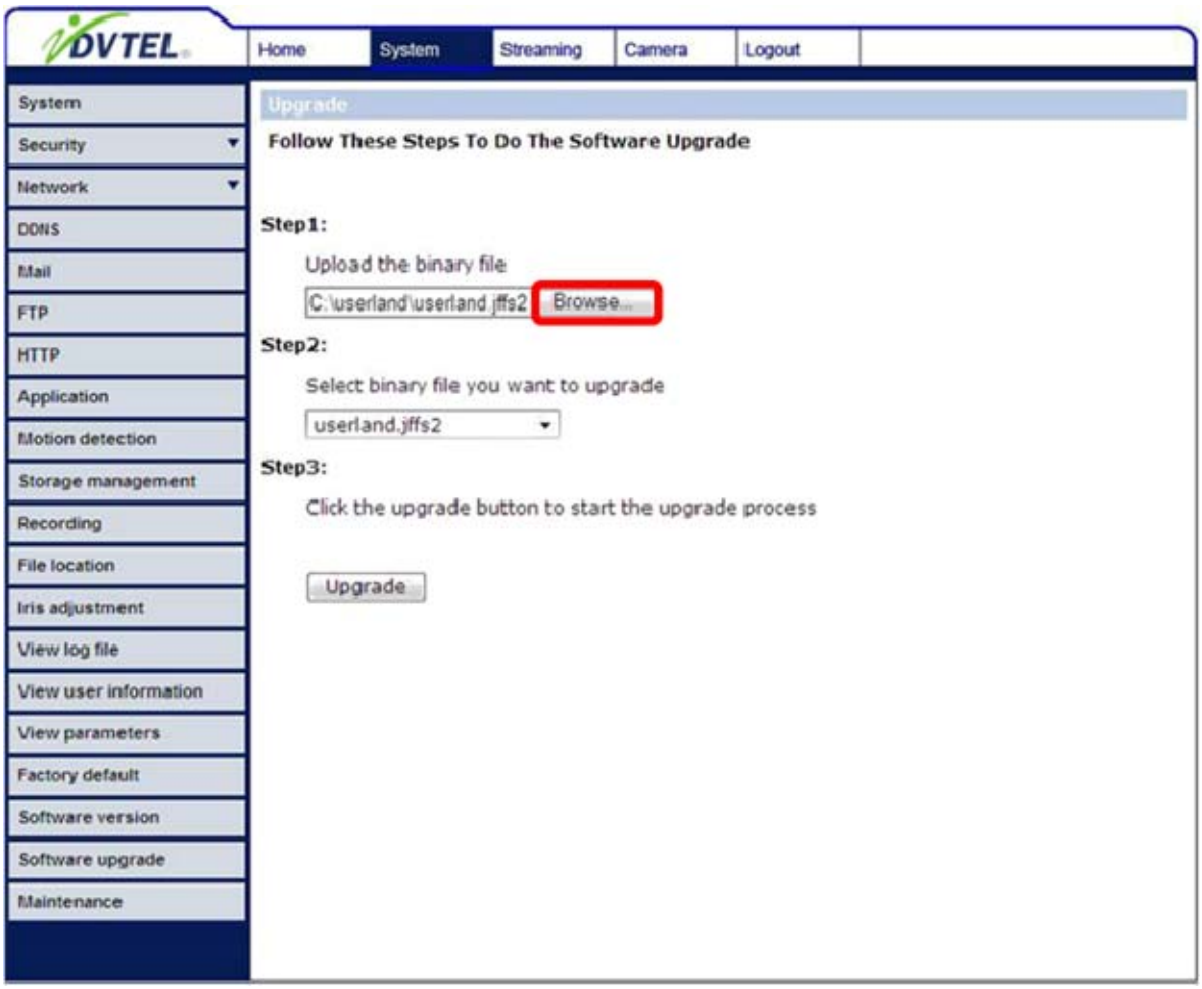


NOTE: Make sure the upgrade software file is available before carrying out software upgrade.

The procedure of software upgrade is like the following:

To upgrade the firmware

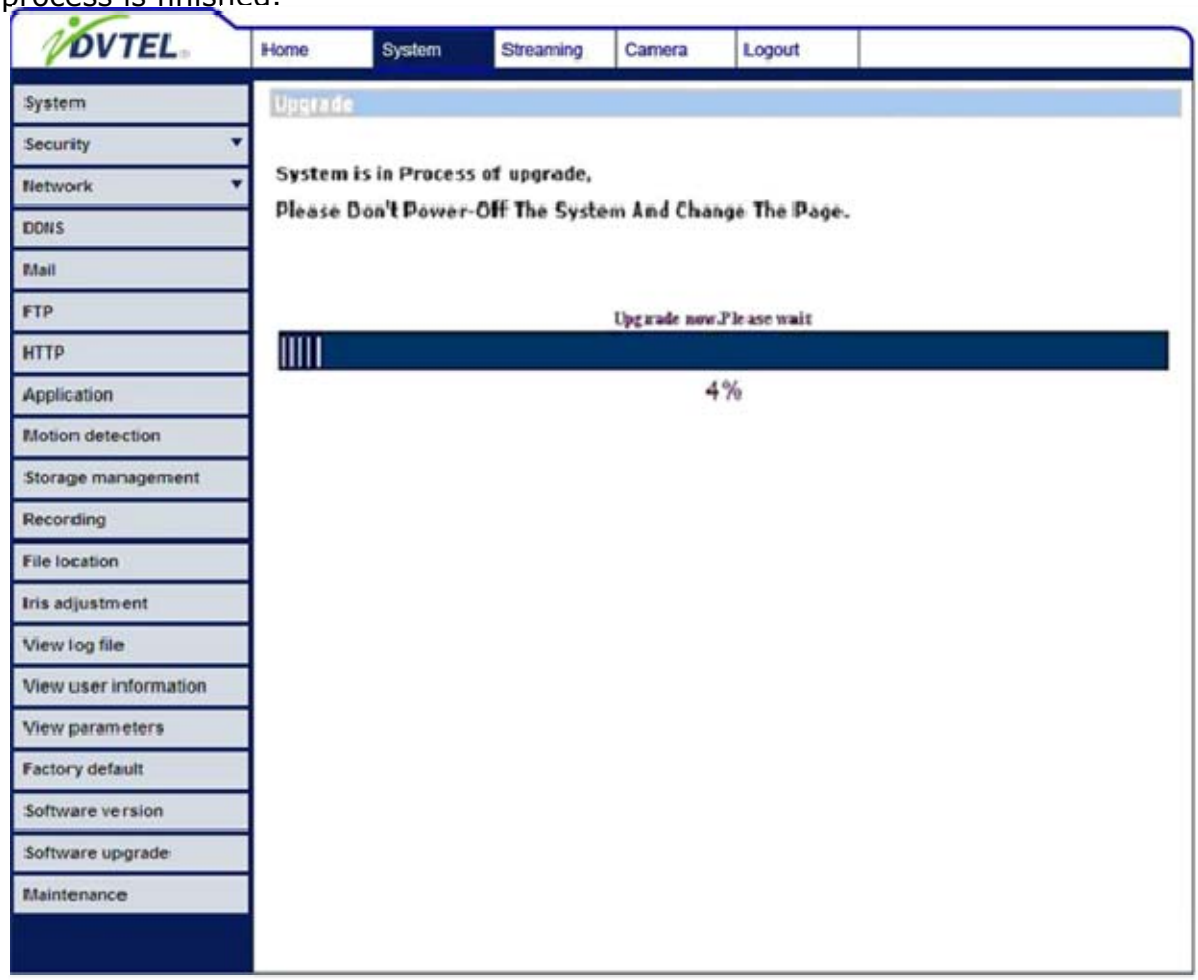
1.) Click "**Browse**" and select the binary file to be uploaded, ex. Userland.IMG.



NOTE: Do not change the upgrade file name, or the system will fail to find the file.

2.) Pull down the upgrade binary file list and select the file you want to upgrade; in this case, select "Userland.IMG."

3.) Press "**Upgrade**". The system will first check whether the upgrade file exists or not, and then begin to upload the upgrade file. Subsequently, the upgrade status bar will display on the page. When it runs to 100%, the upgrade process is finished.



After the upgrade process is finished, the viewer will return to Home page.

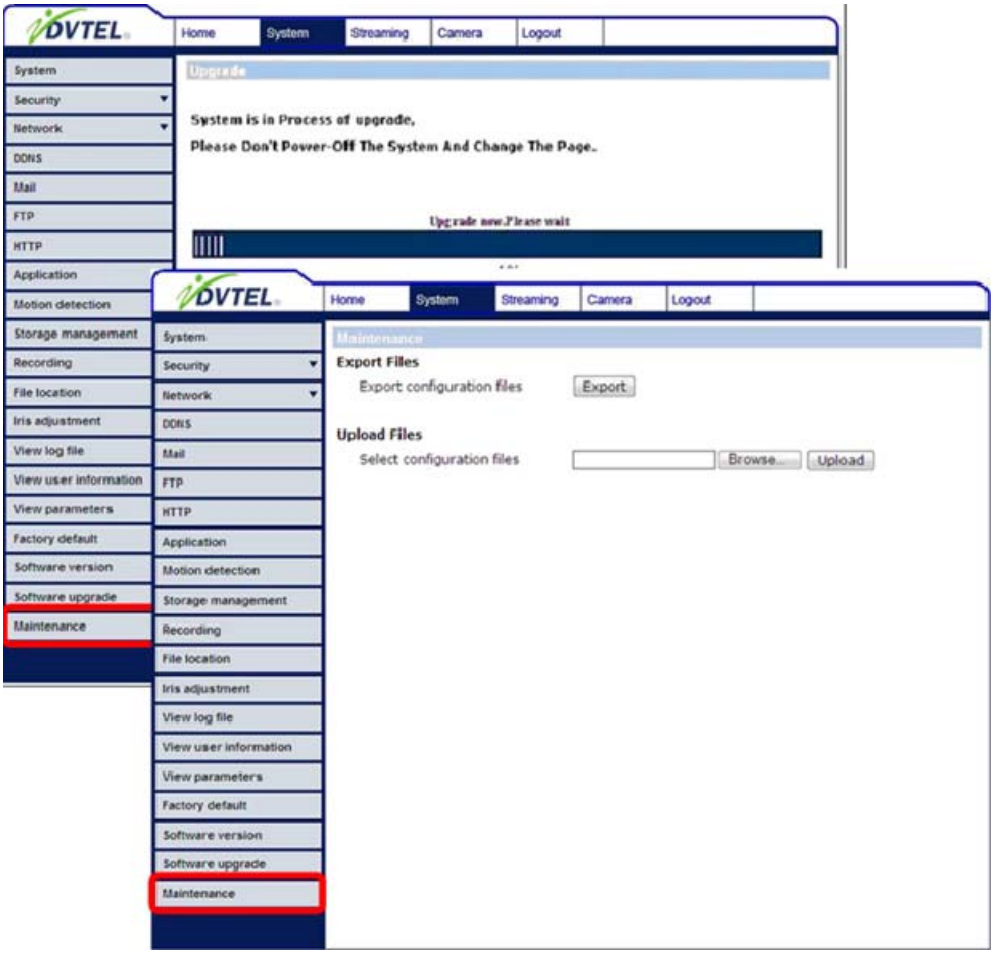
4.) Close the video browser.

5.) Click "**Control Panel**", and then double click "Add or Remove Programs." In the "Currently install programs" list, select "**DCViewer**" and click the button "**Remove**" to uninstall the existing DC Viewer.

6.) Open a new web browser, re-login the IP Camera, and then allow the automatic download of DVTel Web Player (aka. DV Viewer).

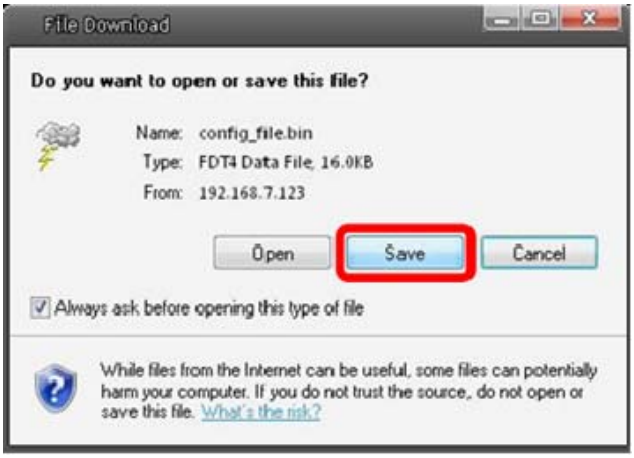
6.3.21 Maintenance

Users can export configuration files to a specified location and retrieve data by uploading an existing configuration file to the IP Camera.



Export

Users can save the system settings by exporting the configuration file (.bin) to a specified location for future use. Press the "**Export**" button, and the popup File Download window will come out as shown below. Click "**Save**" and specify a desired location for saving the configuration file.



Upload

To copy an existing configuration file to the IP Camera, please first click on "**Browse**" to select the configuration file, and then press the "Upload" button for uploading.

6.4 Video and Audio Streaming Settings

Press the tab "**Streaming**" in the top of the page, and the configurable video and audio items will display in the left column. In Streaming, the Administrator can configure specific video resolution, video compression mode, video protocol, audio transmission mode, etc. Further details of these settings will be specified in the following sections.

Related Links

Video Resolution and Rotate Type

Video Compression

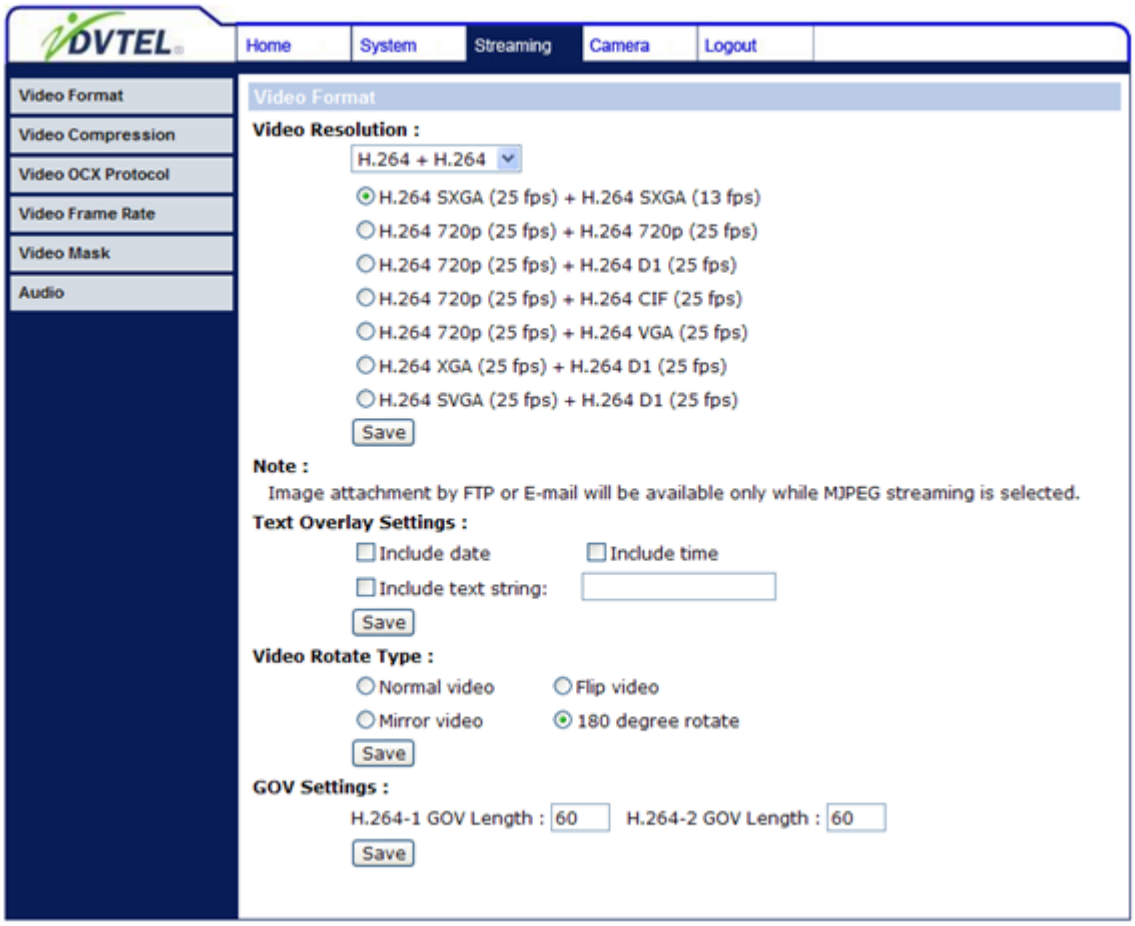
Video OCX Protocol

Video Frame Rate

Audio Mode and Bit Rate Settings

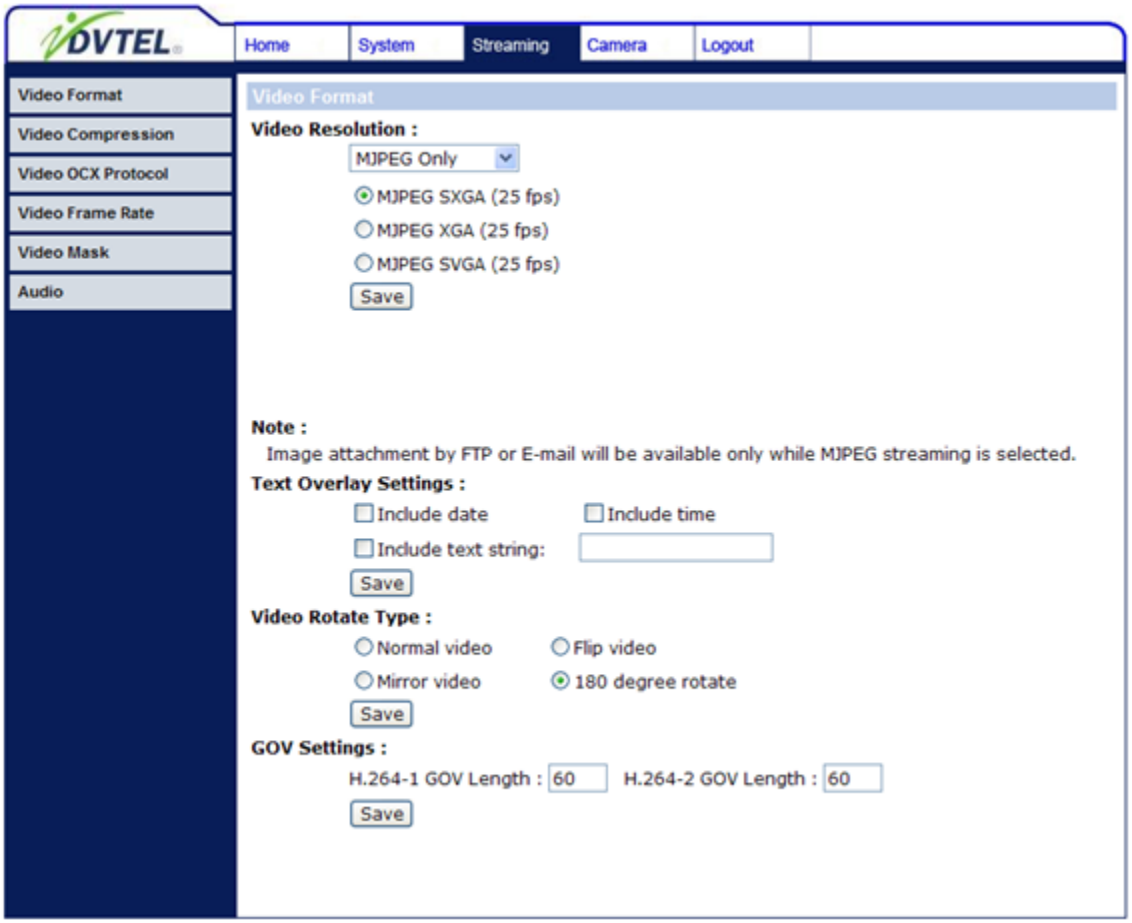
6.4.1 Video Resolution and Rotate Type

The video setting page is shown below:



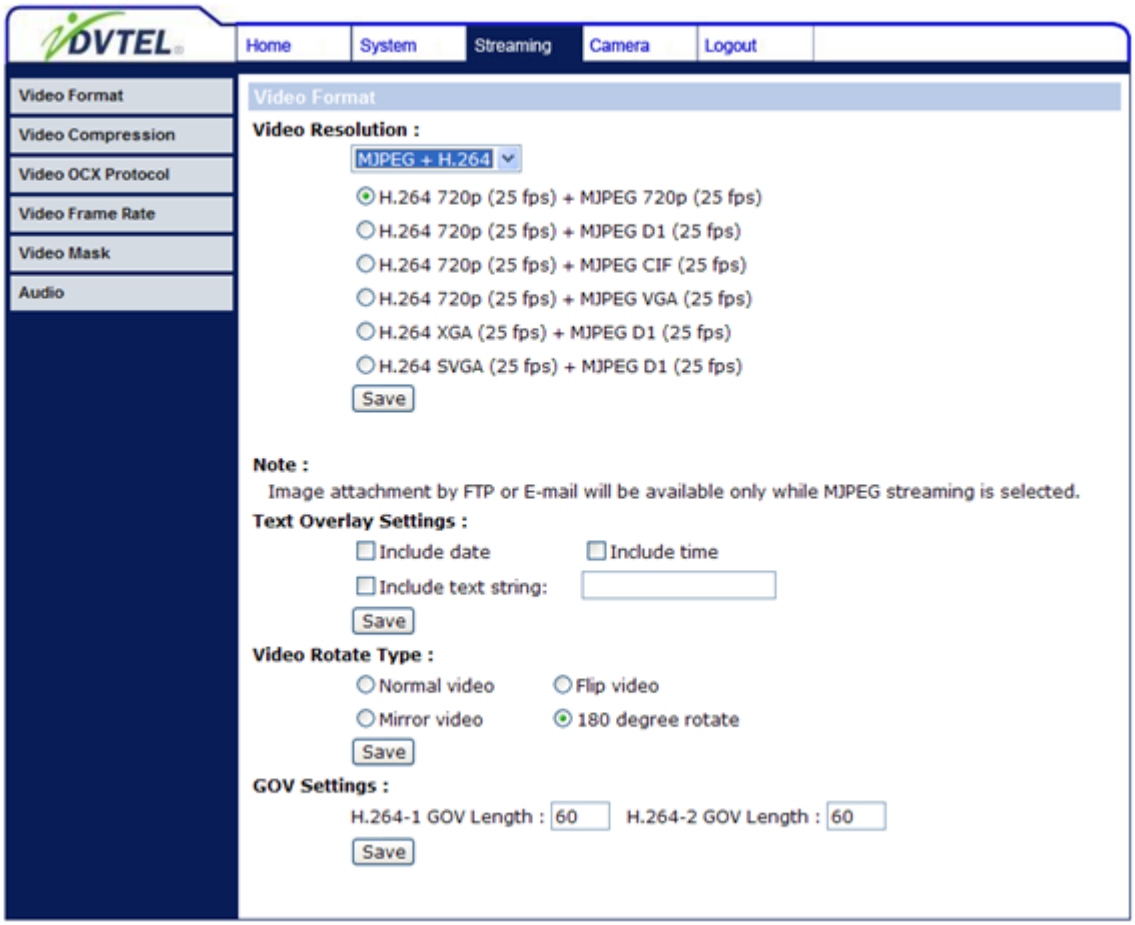
H.264 + H.264 Video Resolution:

- H.264 SXGA (25fps) + H.264 SXGA (13 fps)
- H.624 720p (25 fps) + H.624 720p (25 fps)
- H.624 720p (25 fps) + H.624 D1 (25 fps)
- H.624 720p (25 fps) + H.624 CIF (25 fps)
- H.624 720p (25 fps) + H.624 VGA (25 fps)
- H.624 XGA (25 fps) + H.624 D1 (25 fps)
- H.624 SVGA (25 fps) + H.624 D1 (25 fps)



MJPEG Only Video Resolution (not supported by Latiutude):

- MJPEG SXGA (25fps)
- MJPEG XGA (25fps)
- MJPEG SVGA (25fps)



MJPEG + H.264 Video Resolution:

- H.624 720p (25 fps) + MJPEG 720p (25 fps)
- H.624 720p (25 fps) + MJPEG D1 (25 fps)
- H.624 720p (25 fps) + MJPEG CIF (25 fps)
- H.624 720p (25 fps) + MJPEG VGA (25 fps)
- H.624 XGA (25 fps) + MJPEG D1 (25 fps)
- H.624 SVGA (25 fps) + MJPEG D1 (25 fps)

Click "**Save**" to confirm the setting.

Text Overlay Settings

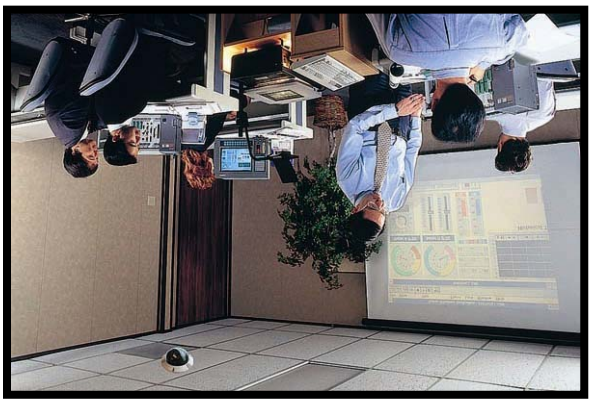
Users can select the items to display data including date/time/text on the live video pane. The maximum length of the string is 20 alphanumeric characters.

Click "**Save**" to confirm the Text Overlay setting.

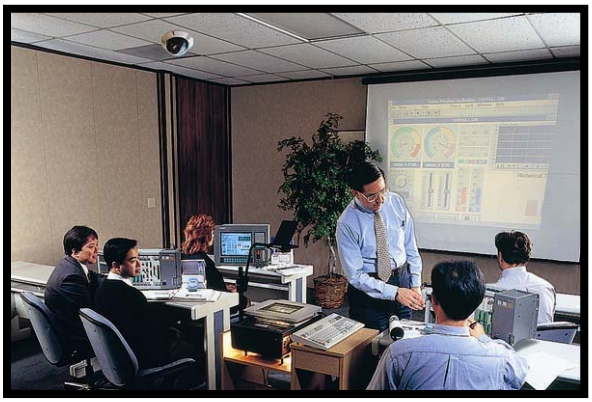
Video Rotate Type

Users can change video display type if necessary. Selectable video rotate types include Normal, Flip, Mirror and 180 degree. Differences among these types are illustrated as below.

Suppose the displayed image of the IP Camera is shown as the figure below.



To rotate the image, users can select "**Flip**", for instance. Then the displayed image will be reversed as shown below.



The following is descriptions for different video rotate type.

- **Flip**
  If select <**Flip**>, the image will be rotated vertically.
- **Mirror**
  If select <**Mirror**>, the image will be rotated horizontally.
- **180 Degree**
  Selecting <**180 Degree**> will make the image 180° counter-/clockwise inversed.

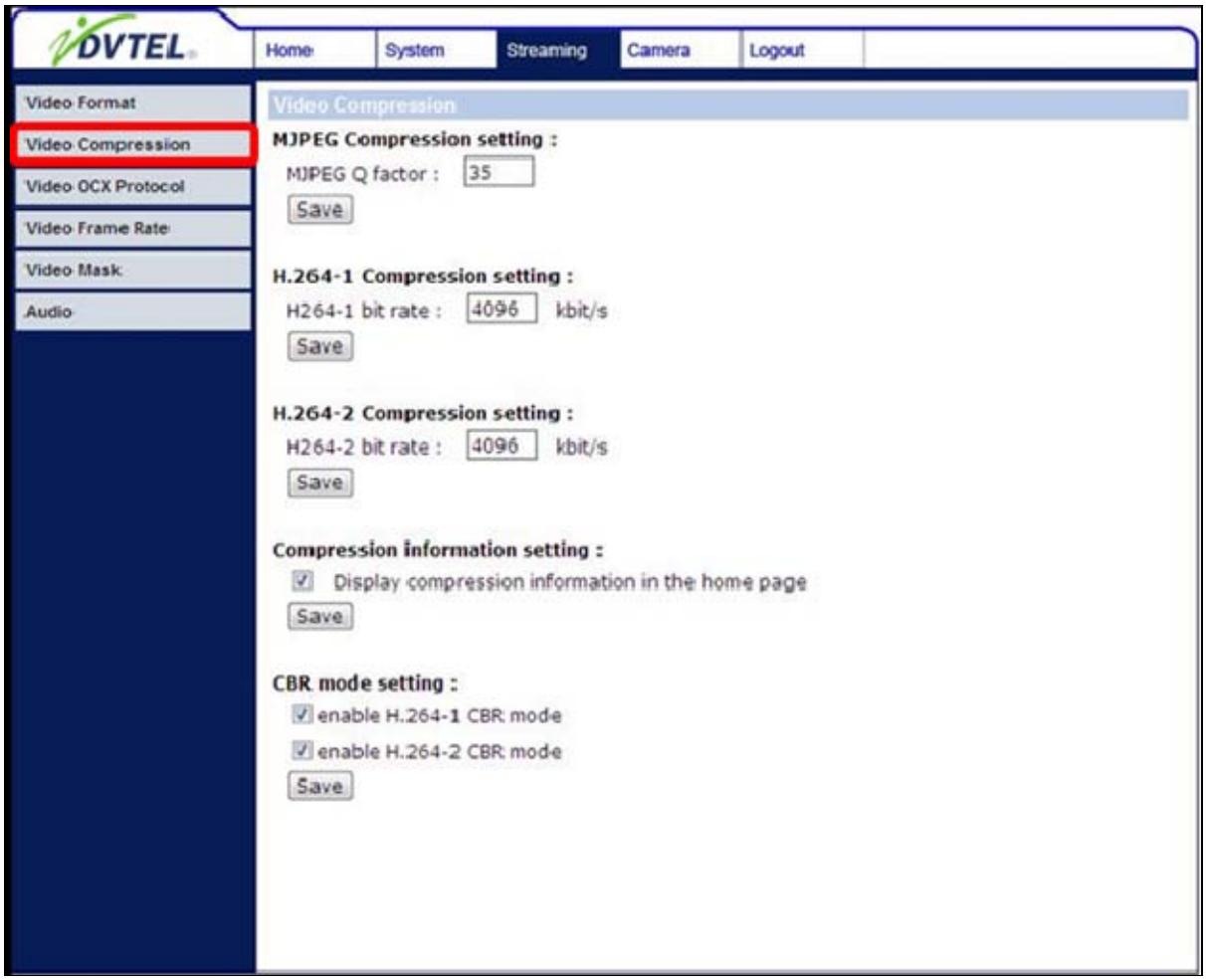
Click "**Save**" to confirm the setting.

GOV Settings

Users can set the GOV length to determine the frame structure (I-frames and P-frames) in a video stream for saving bandwidth. The setting range is from 2 to 64. Longer GOV means decreasing the frequency of I-frames. Click "**Save**" to confirm the GOV setting.

6.4.2 Video Compression

Users can specify the values for MJPEG/H.264 compression mode in the video compression page (see the figure below), depending on the application.



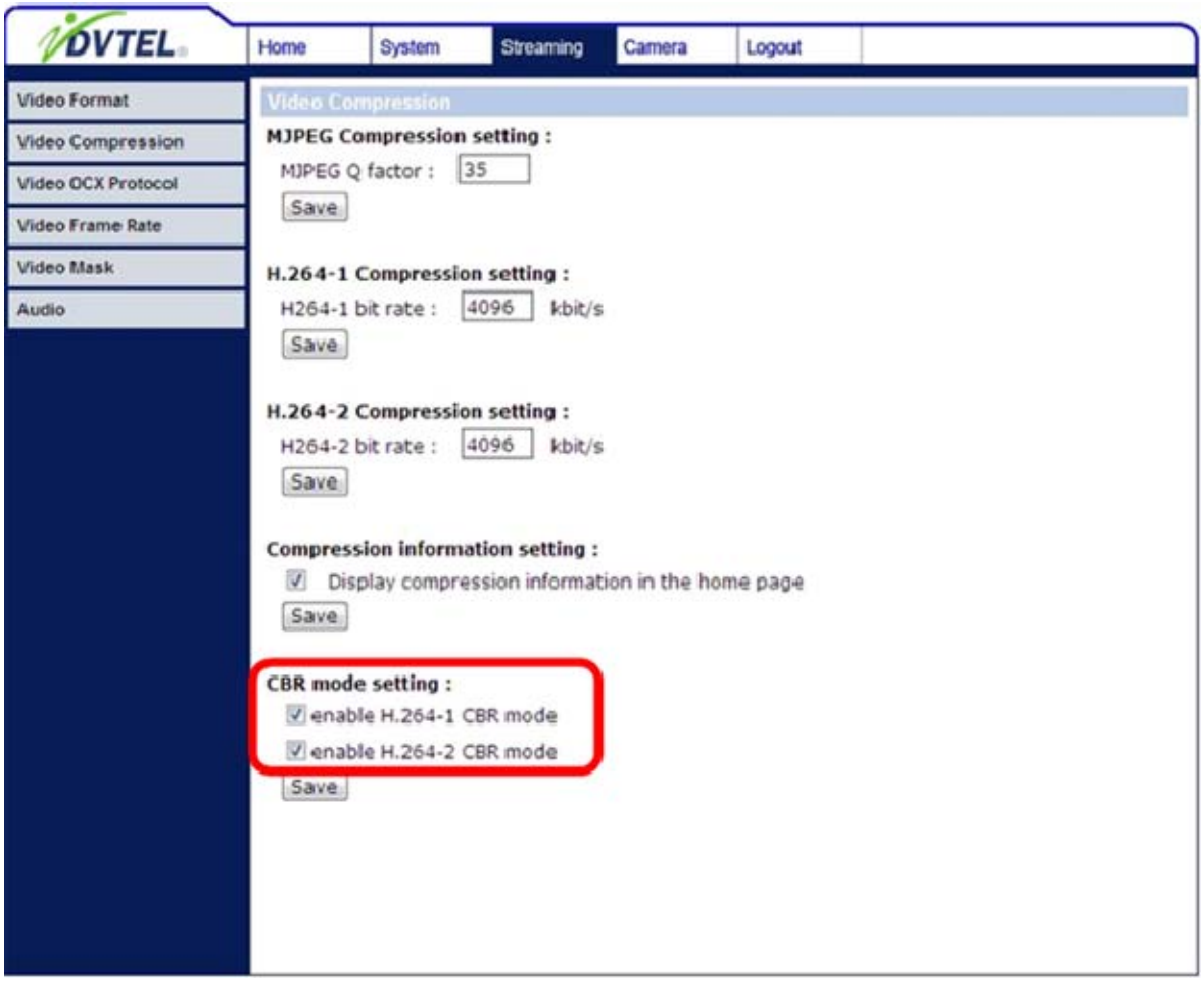
MJPEG Q (Quality) factor
Higher value implies higher bit rates and higher visual quality. The default setting of MJPEG Q factor is 35; the setting range is from 1 to 70.

H.264-1/ H.264-2 bit rate
The default setting of H.264-1/ H.264-2 is 4096 kbps; the setting range is from 64 to 8192 kbps.

Display Compression Information
Users can also decide whether to display compression information on the Home page.

Click "**Save**" to confirm the setting.

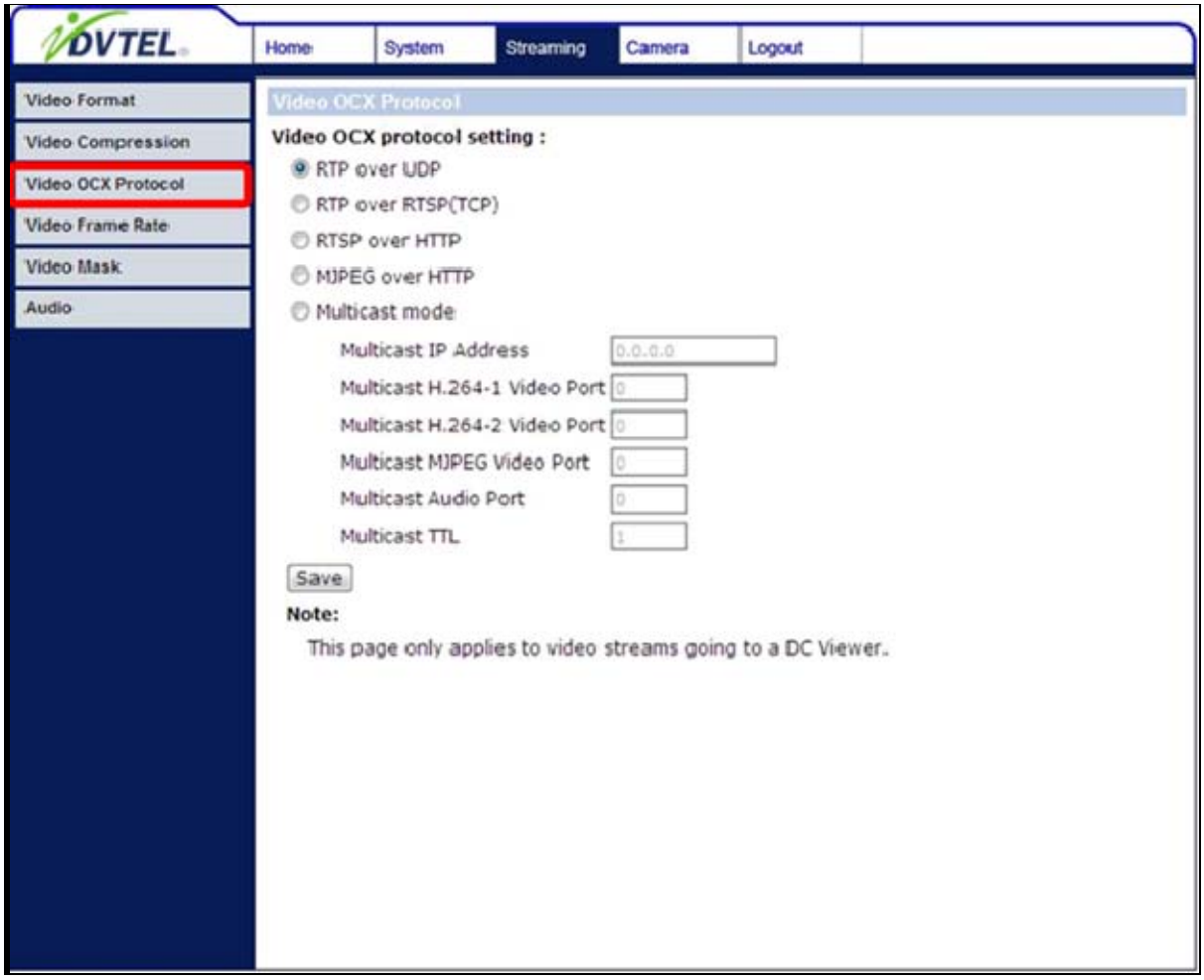
CBR Mode Setting



The CBR (Constant Bit Rate) mode could be the preferred bit rage mode if the bandwidth available is limited. It is important to take account of image quality while choosing to use CBR mode.

6.4.3 Video OCX Protocol

In the Video OCX protocol setting page, users can select RTP over UDP, RTP over TCP, RTSP over HTTP or MJPEG over HTTP, for streaming media over the network. In the case of multicast networking, users can select the Multicast mode. The page is shown as follows.



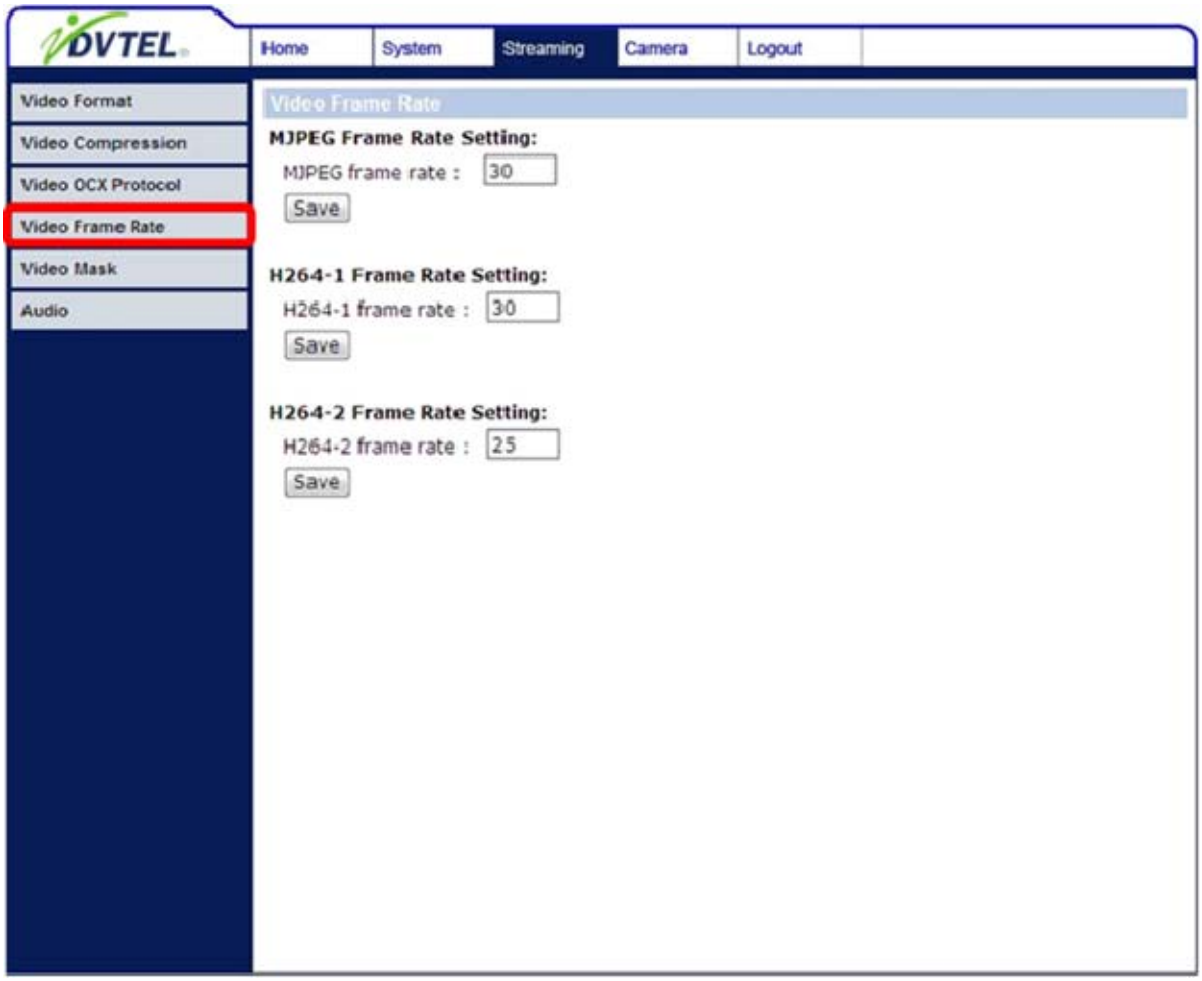
Video OCX protocol setting options include:

- RTP over UDP
- RTP over RTSP(TCP)
- RTSP over HTTP
- MJPEG over HTTP
- **Multicast Mode**
  Enter all required data, including multicast IP address, H.264 video port, MJPEG video port, audio port and TTL into each blank.

Click **"Save"** to confirm the setting.

6.4.4 Video Frame Rate

Video frame rate is for setting the frames per second (fps) if necessary. The setting page is shown as below.

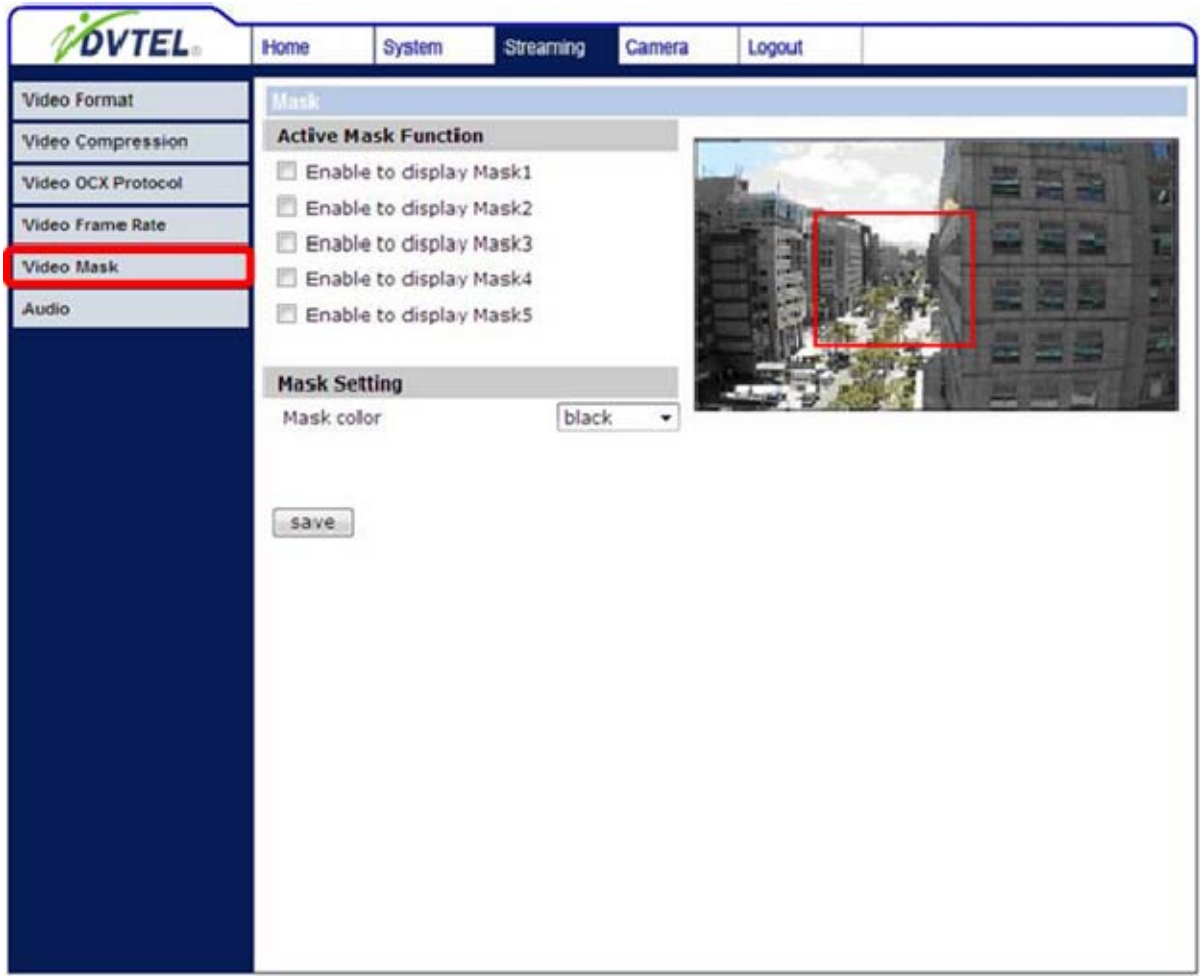


MJPEG/ H.264-1/ H.264-2 Frame Rate

The default setting of MJPEG Frame Rate is 30 fps; the setting range is from 1 to 30.

Click "**Save**" to confirm the setting.

NOTE: Lower frame rate will decrease video smoothness.



Active Mask Function

- **Add a Mask**
  Check a Video Mask checkbox, and a red frame will come out in the Live Video pane at the right side. Use the mouse to drag and drop to adjust the mask's size and place it on the target zone.

NOTE: It is suggested to set the Video Mask twice as large as the object it covers.

- **Cancel a Mask**
  Uncheck the checkbox of the Video Mask meant to be deleted, and the selected mask will disappear from the Live Video pane instantly.

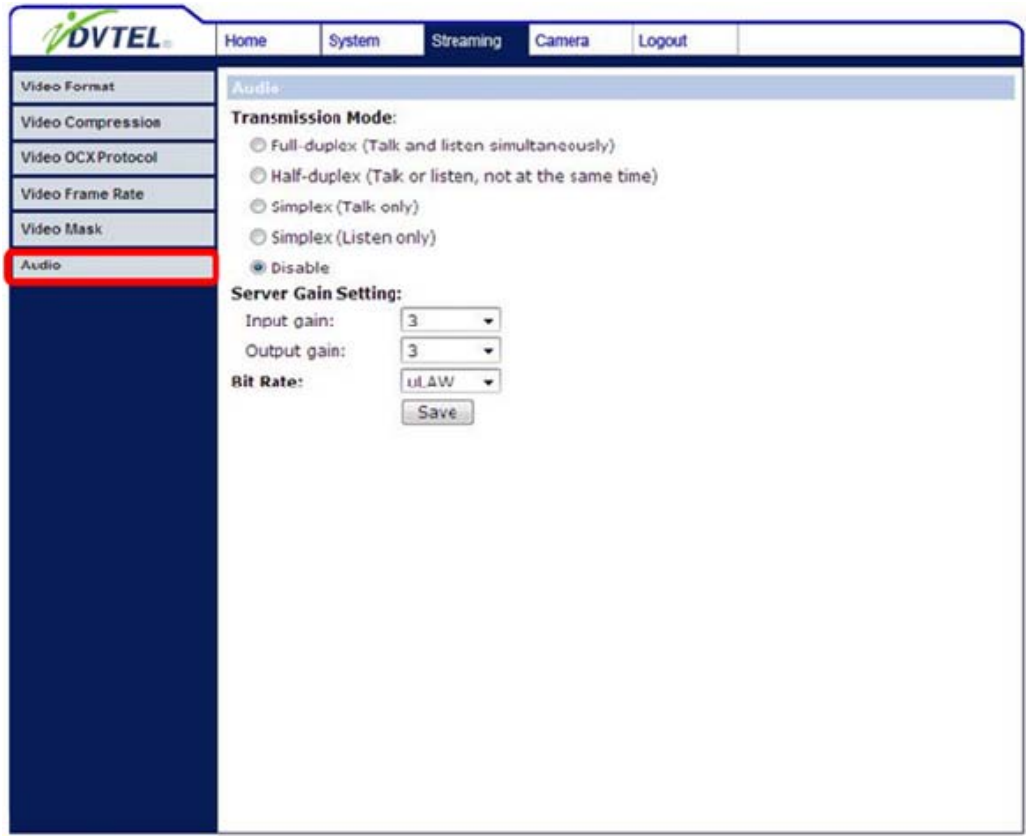
Mask Setting

- **Mask color**
  The selections of Mask color include red, black, white, yellow, green, blue, cyan, and magenta.

Click "**Save**" to confirm the setting.

6.4.5 Audio Mode and Bit Rate Settings

The audio setting page is show as below. In the Audio page, the Administrator can select one transmission mode and audio bit rate.



Transmission Mode

- **Full-duplex (Talk and Listen simultaneously)**
  In the Full-duplex mode, the local and remote sites can communicate with each other simultaneously, i.e. both sites can speak and be heard at the same time.
- **Half-duplex (Talk or Listen, not at the same time)**
  In the Half-duplex mode, the local/remote site can only talk or listen to the other site at a time.
- **Simplex (Talk only)**
  In the Talk only Simplex mode, the local/remote site can only talk to the other site.
- **Simplex (Listen only)**
  In the Listen only Simplex mode, the local/remote site can only listen to the other site.
- **Disable**
  Select the item to turn off the audio transmission function.

Server Gain Setting

Set the audio input/output gain levels for sound amplification. The audio gain values are adjustable from 1 to 6. The sound will be turned off if the audio gain is set to "**Mute**".

Bit Rate

Selectable audio transmission bit rate include 16 kbps (G.726), 24 kbps (G.726), 32 kbps (G.726), 40 kbps (G.726), uLAW (G.711) and ALAW (G.711). Both uLAW and ALAW signify 64 kbps but in different compression formats. Higher bit rate will let higher audio quality and require bigger bandwidth.

Click "**Save**" to confirm the setting.

6.5 Camera Settings

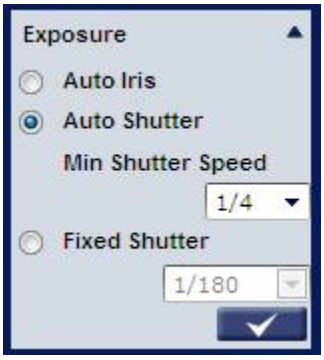
The figure below is the camera configuration page. Details of each parameter setting are described in the following subsections.

Related Links

- Exposure Setting
- White Balance Setting
- Picture Adjustment
- Digital Zoom
- WDR Function
- Noise Reduction
- TV System

6.5.1 Exposure Setting

The Exposure pull-down menu is shown as follows:



The exposure is the amount of light received by the image sensor and is determined by the width of lens diaphragm opening, the amount of exposure by the sensor (shutter speed) and other exposure parameters. With this item, users can define how the Auto Exposure function works.

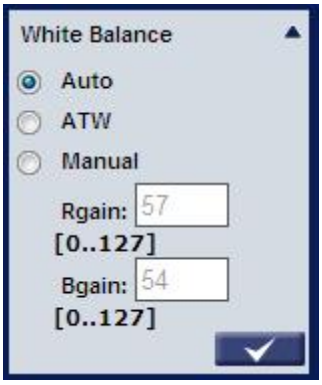
Each exposure mode is specified as follows:

- **Auto Iris**
  In this mode, the exposure gives priority to the auto iris. Shutter speed and AGC circuit will function automatically in cooperating with IRIS to get consistent exposure output.
- **Auto Shutter**
  In this mode, the camera's Shutter Speed works automatically to get consistent video output level. The shutter speed range is from 1 to 1/30 sec. with 6 options. Users could select suitable shutter speed according to the environmental luminance.
- **Fixed Shutter Mode**
  In this mode, fixed shutter speed could be selected from the dropdown menu. The shutter speed ranges are:
  - **Min shutter speed-**When the camera is set to **PAL** there are **6 options: 1, 1/2, 1/3, 1/6, 1/12, 1/25.**
  - **Min shutter speed-**When the camera is set to **NTSC** there are **6 options: 1, 1/2, 1/4, 1/8, 1/15, 1/30.**

  Users could select suitable shutter speed according to the environmental luminance.

6.5.2 White Balance Setting

The White Balance pull-down menu is shown as follows:

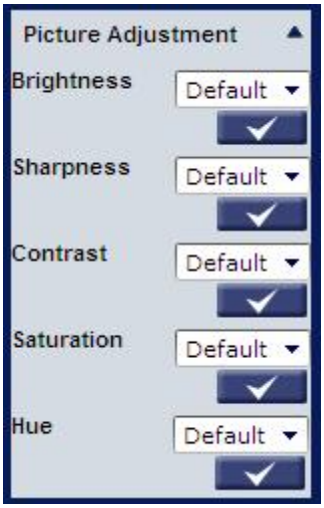


A camera needs to find reference color temperature, which is a way of measuring the quality of a light source, for calculating all the other colors. The unit for measuring this ratio is in degree Kelvin (K). Users can select one of the White Balance Control modes according to the operating environment. The following table shows the color temperature of some light sources for reference.

Light Sources	Color Temperature in K
Cloudy Sky	6,000 to 8,000
Noon Sun and Clear Sky	6,500
Household Lighting	2,500 to 3,000
75-watt Bulb	2,820
Candle Flame	1,200 to 1,500

- **Auto Mode**
  The Auto Balance White mode is suitable for environment with light source having color temperature in the range roughly from 2700 ~ 8000K.
- **ATW Mode (Auto Tracking White Balance)**
  With Auto Tracking White Balance function, the white balance in a scene will be automatically adjusted while temperature color is changing. The ATW Mode is suitable for environment with light source having color temperature in the range roughly from 2450 ~ 10500K.
- **Manual Mode**
  In this mode, users can change the White Balance value manually. Users can select a number between 0 ~127 of "Rgain/ Bgain" item to gain the red/ blue illuminant on the Live Video Pane. Press < √ > to confirm the new setting.

6.5.3 Picture Adjustment



- **Brightness**
  Users can adjust the image's brightness by adjusting the item. Please select ranging from -12 to +13. To increase video brightness, select a bigger number. Press < √ > to confirm the new setting.
- **Sharpness**
  Increasing the sharpness level can make the image looked sharper; especially enhance the object's edge. Please select ranging from +0 to +15. Press < √ > to confirm the new setting.
- **Contrast**
  Camera image contrast level is adjustable; please select ranging from -6 to +19. Press < √ > to confirm the new setting.
- **Saturation**
  Camera image saturation level is adjustable; please select ranging from -6 to +19. Press < √ > to confirm the new setting.
- **Hue**
  Camera image hue level is adjustable; please select ranging from -12 to +13. Press < √ > to confirm the new setting.

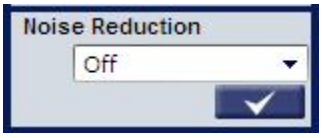
6.5.4 Digital Zoom

The camera's digital zoom is adjustable from x2 to x8. Press <√> to confirm the new setting. Press < √ > to confirm the new setting.

6.5.5 WDR Function

The Wide Dynamic Range (WDR) function is for solving high contrast or changing light issues so that enhances better video display. The WDR is adjustable from Low, Mid to Hi. Higher level of WDR represents wider dynamic range, so that he IP Camera can catch a greater scale of brightness. Press <√ > to confirm the new setting.

6.5.6 Noise Reduction

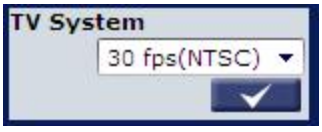


Different level options for 3D Noise Reduction (3DNR) include Low, Mid and High. Higher level of 3DNR generates relatively enhanced noise reduction.

The proprietary Smart Picture Quality (SPQ) video processing method could drastically minimum motion blur and provides clear images even in low-light environment. The combination of SPQ and 3DNR at different level further yields exceptional video performance in various conditions.

With Noise Reduction (reduces image noise/snow) function, the IP Camera can deliver more clear images in low-light conditions. The Noise Reduction is adjustable from 3DNR Low, 3DNR Mid, 3DNR Hi, SPQ, SPQ + 3DNR Low, SPQ + 3DNR Mid, to SPQ + 3DNR Hi. Press < √ > to confirm the new setting.

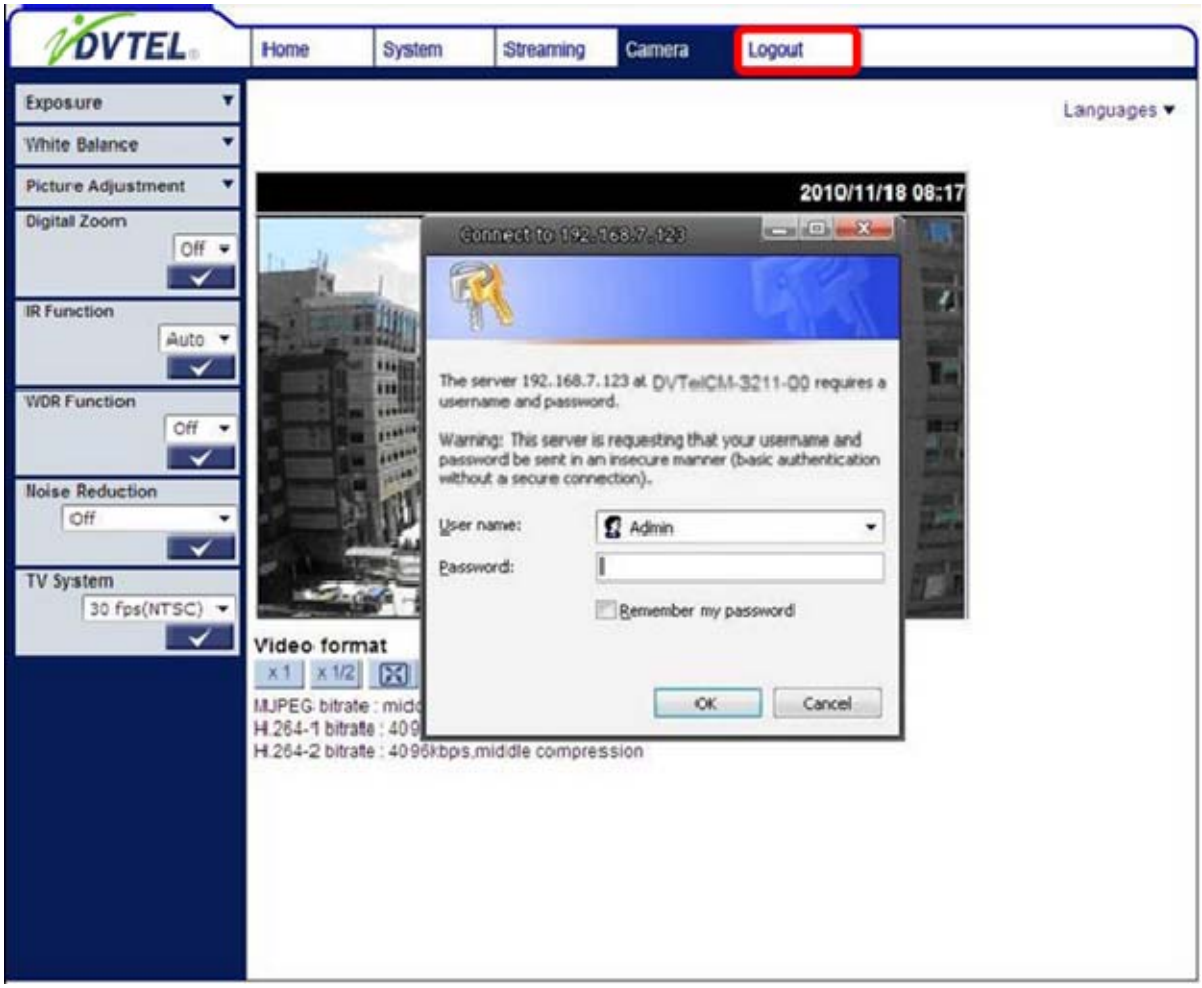
6.5.7 TV System



Select the video format that matches the present TV system. Press < √ > to confirm the new setting.

6.6 Logout

Press the tab "**Logout**" in the top of the page, and the login window will pop up. This enables login with another user name.


DVTEL
Home
System
Streaming
Camera
Logout
Languages
Exposure
White Balance
Picture Adjustment
Digital Zoom
Off
IR Function
Auto
WDR Function
Off
Noise Reduction
Off
TV System
30 fps(NTSC)
2010/11/18 08:17
Connect to 192.168.7.123
The server 192.168.7.123 at DVTelCM-3211-00 requires a username and password.
Warning: This server is requesting that your username and password be sent in an insecure manner (basic authentication without a secure connection).
User name:
Admin
Password:
Remember my password
OK
Cancel
Video format
x 1
x 1/2
MJPEG bitrate : mid
H.264-1 bitrate : 409
H.264-2 bitrate : 4096kbps,middle compression

7 Appendix

The following sections are included:

- Appendix A: Technical Specifications
- Appendix B: Internet Security Settings
- Appendix C: Install UPnP Components
- Appendix D: Deleting the Existing DC Viewer
- Appendix E: Deleting Temporary Internet Files
- Appendix F: Contacting DVTel
- Appendix G: Accessories

7.1 Appendix A: Technical Specifications

Camera		
Image Sensor		1/3" Progressive CMOS
Effective Pixels		1280 (H) x1024 (V)
Shutter Speed		• PAL from 1/10000 to 1/1.5 with 18 options • NTSC from 1/10000 to 1 with 19 options
Enclosure		Options Tamper Resistant Surface Mount Plastic Case or IK10 rated Vandal IP66
Sensitivity		0.1 Lux @ F1.2 Color or SW D/N
Lens		
Lens Type	Varifocal lens	F 1.2 f=2.7-9mm
Operation		
Video Streaming		H264: HD720 25+25 fps or 30+30 fps SXGA 1.3MP 25+12 fps or 30+15 fps
		H.264 SXGA (25/ 30 fps) + H.264 SXGA (25/30 fps)
Resolution	H.264	HD SXGA(1280x1024)/720p/D1/CIF/VGA/XGA-D1/SVGA
	MJPEG	HD SXGA/XGA/SVGA
Operation		
Image Setting	Brightness	Manual
	Exposure	Auto Iris Auto/Fixed Shutter
	Sharpness	Manual
	Contrast	Manual
	White Balance	Manual / AWB/ ATW
	Saturation	Manual
	Hue	Manual
	Digital Zoom	Support
	WDR	On/Off
	3D Noise	On/Off
	Privacy Mask (Video Mask)	Web interface: On/Off -Configurable up to 5 imbedded in the streaming video output. Note: In the Latitude interface the Privacy Mask is independent of the CM-3211-00 OSD and is not imbedded as well as allows password protected toggling of the Privacy Mask during live play and playback.
	Day/Night	Electronic Day/Night Function
Audio	Two-way Audio	Line out, Line in/ mic in
	Compression	G.711/G.726

Operation		
Alarm	Input	5V 10kO pull up
	Output	Photo Relay Output 300V DC/AC
Event Notification		HTTP, FTP, SMTP
Multiple Languages		English, Deutsch(German), French, Italian, Simplified Chinese, Russian, and Korean
Analytics		
	Motion detection	On/Off – Sampling Pixel Interval, Detection level, Sensitivity level, and Time interval settings.
	Regions of Interest	Web Interface: Configurable up to 10 ROI masks. Latitude Interface: Configurable up to 6 ROI masks.
	Motion metadata	Streaming and Recorded Video includes per frame level Motion metadata. Motion metadata is archive searchable by ROI via the Latitude ControlCenter user interface.
	Triggered Actions	Notifications, On-Event Recording and Relay Output Command Includes configurable alarms and broad range of recording on detection of video and snapshots.
	Tampering Alarm	On/Off – Duration and on event notification, recording to SD card, etc. Supported as an event in Latitude.
Network		
Interface		10/100Mbps Ethernet (RJ-45)
Protocol		IPv4/ v6, TCP/IP, UDP, RTP, RTSP, HTTP, HTTPS, ICMP,FTP, SMTP, DHCP, PPPoE, UPnP, IGMP, SNMP, QoS, and ONVIF
Password Levels		User and Administrator
Security		HTTPS, IP Filter
Internet Browser		Internet Explorer (6.0+), Chrome, Firefox, Safari
User Account		20
Mechanical		
Connectors	Power	3 pins terminal block
	Ethernet	RJ-45
	Micro SD	SDHC support (not included) Supports up to 32GB MicroSD card.
	Audio	4 pins terminal block • Mono audio input • Stereo audio output
Alarm		4 pins terminal block • 2 pins Alarm Input • 2 pins Relay Output
Analog Video		1.0 Vp-p / 75 ohm, BNC (continuously enabled)
LED Indicator		Power, Link, ACT

General		
Operating Temperature		-10°C ~ 50°C
Humidity		10% to 90% non-condensing
Power Source		DC12V/ AC24V/ PoE
Power Consumption		System 5.5 W
Regulatory		CE marked, EN55022-1998 Class A, EN55024, FCC part 15 (subpart B, class A) UL, RoHS Compliant
Dimension		155 x 131 mm (6.1 x 5.2 inches) For more details, see CM-3211-00 Camera Dimensions
Weight		0.7 kg (1.5 lbs)

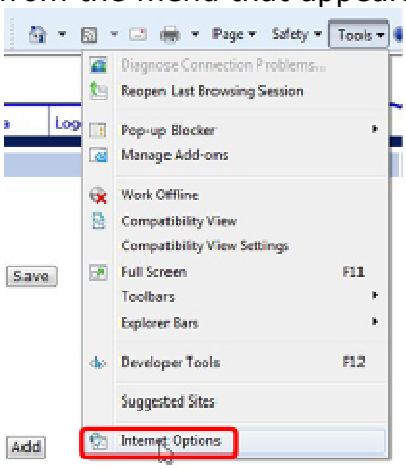
7.2 Appendix B: Internet Security Settings

If ActiveX control installation is blocked, please either set Internet security level to default or change ActiveX controls and plug-ins settings.

Internet Security Level: Default

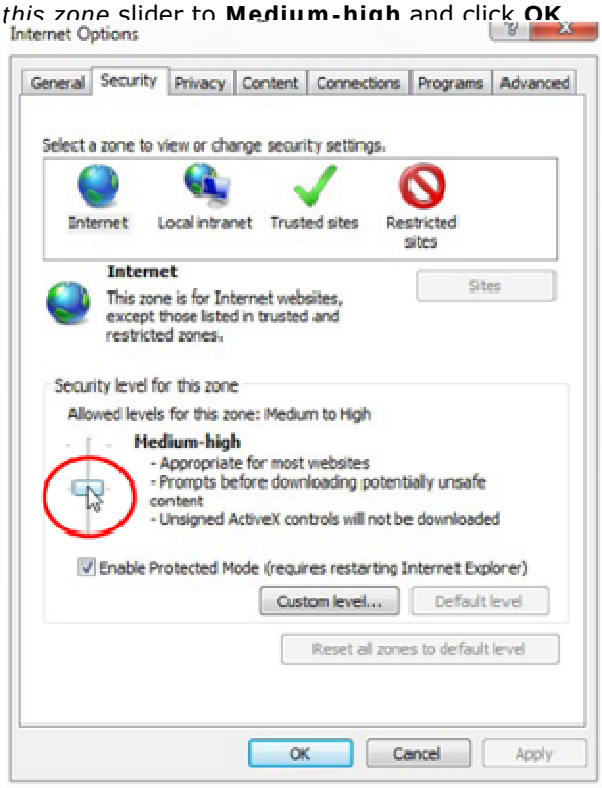
1.) Start Internet Explorer (IE).

2.) From the Command Bar toolbar, click **Tools** and select **Internet Options** from the menu that appears.



3.) In the Internet Options dialog that appears, click the **Security** tab, and if not selected, click Internet.

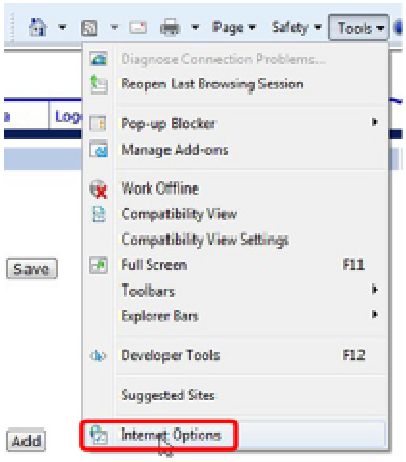
4.) If the settings are not defined as default, click **Default Level** and move the *Allowed levels for this zone* slider to **Medium-high** and click **OK**.



5.) Close all browser windows, and reopen so that the settings to take effect.

ActiveX Controls and Plug-ins Settings - Creating a Custom Level

1.) From the Command Bar toolbar, click **Tools** and select **Internet Options** from the menu that appears.



2.) In the Internet Options dialog that appears, click the **Security** tab, and if not selected, click

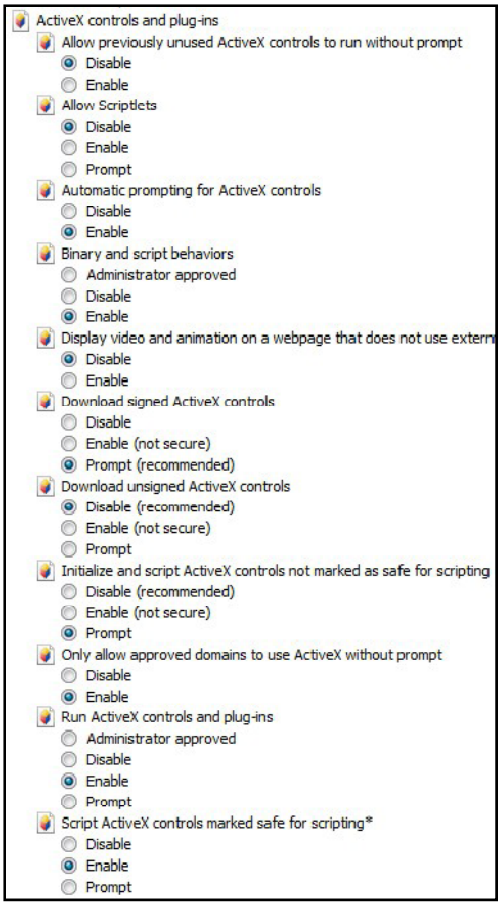
.

3.) Click **Custom Level**.

4.) In the dialog that appears, under "ActiveX controls and plug-ins", set ALL the following items to **Enable** or **Prompt**.

ActiveX controls and plug-ins settings:

a. Automatic prompting for ActiveX controls
b. Binary and scrip behaviors
c. Download signed ActiveX controls
d. Download using ActiveX controls
e. Initialize and script ActiveX not marked as safe
f. Run ActiveX controls and plug-ins
g. Script ActiveX controls marked safe for scripting



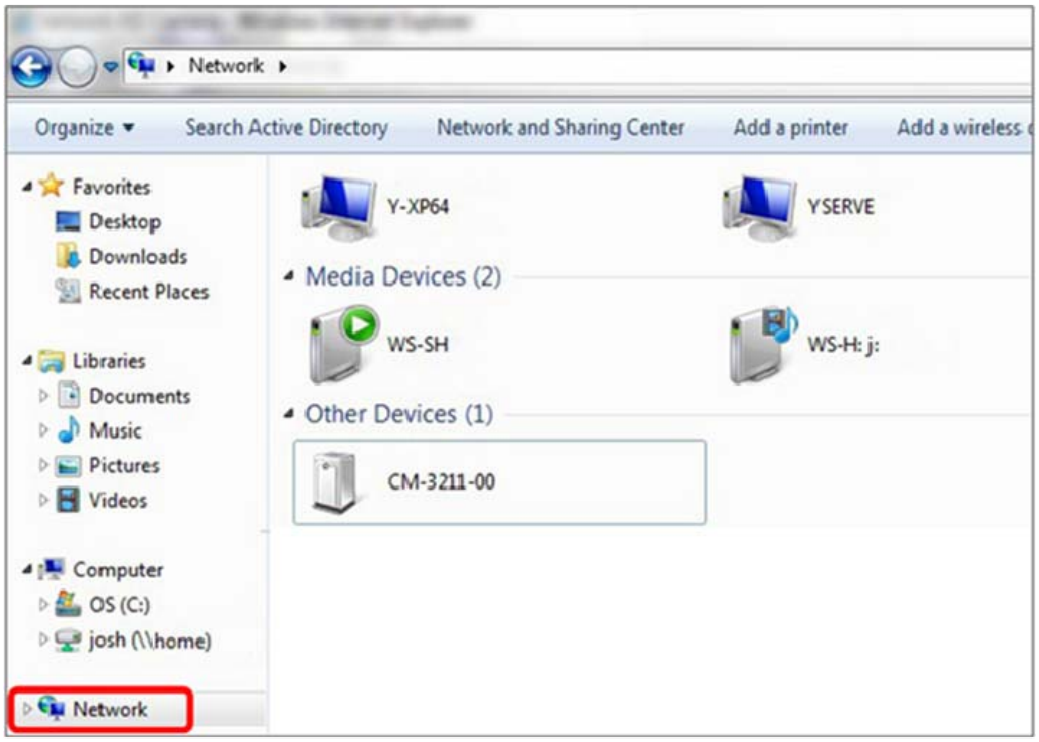
5.) Click **OK** to accept the settings and close the <Security> screen.

6.) Click OK to close the Internet Options screen.

7.) Close the browser window, and restart IE again for accessing the IP Camera.

7.3 Appendix C: Install UPnP Components

Please follow the instructions below to enable the UPnP to allow the CM-3211-00 camera to be discovered and display in Network locations under *Other Devices*:

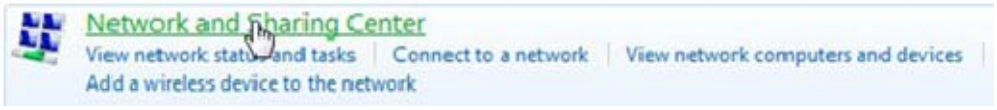


To Enable UPnP Discovery

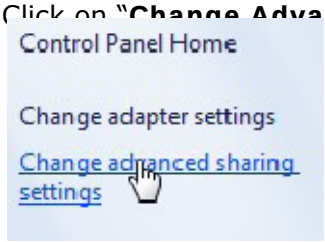
1.) Click (Start) and select "**Control Panel**".

2.) Click on "**Network and Internet**".

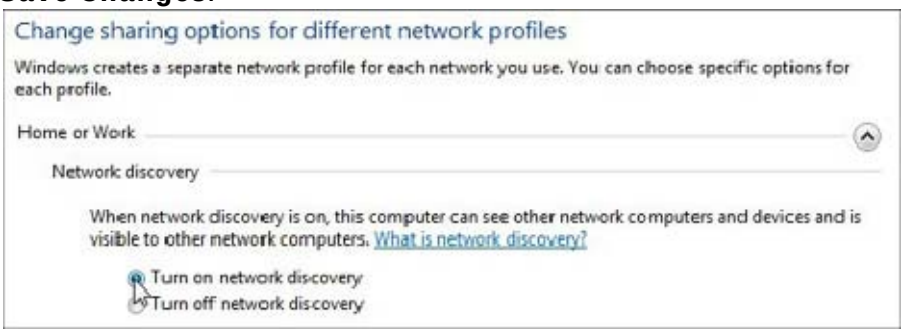
3.) Click on "**Network and Sharing Center**"



4.) Click on "**Change Advanced Sharing Settings**".



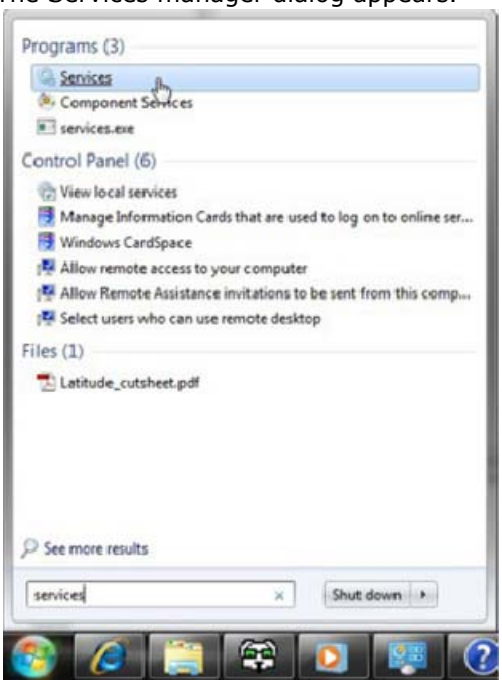
5.) Expand the Home or Work node, select **Turn on network discovery** and click **Save Changes**.



Note: Network discovery requires that the DNS Client, Function Discovery Resource Publication, SSDP Discovery, and UPnP Device Host services are started, that network discovery is allowed to communicate through Windows Firewall, and that other firewalls are not interfering with network discovery.

To Check the UPnP Device Host services are running:

1.) Click (Start) and type in the **Search programs and files** field "**services**" and then select **Services** from the displayed Programs.
The Services manager dialog appears.



2.) In the Services manager, scroll down the list to *UPnP Device Host* and verify it shows the status "Started". If it doesn't display "Started", right mouse click and select **Start** from the shortcut menu.

7.4 Appendix D: Deleting the Existing DC Viewer

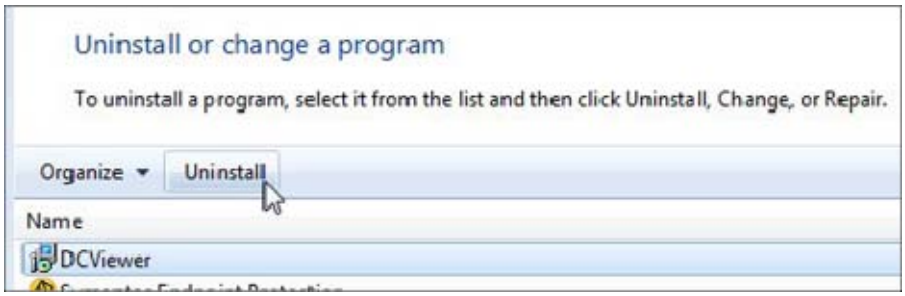
For users who have installed the DC Viewer in the PC previously, please first delete the existing DC Viewer from the PC before accessing to the IP Camera.

To delete a legacy DC Viewer

1.) Click (Start) and select "**Control Panel**".

2.) In the "Control Panel", click "Uninstall a program."

3.) From the installed program list, select **DCViewer** and then on the banner bar, click **Uninstall**.



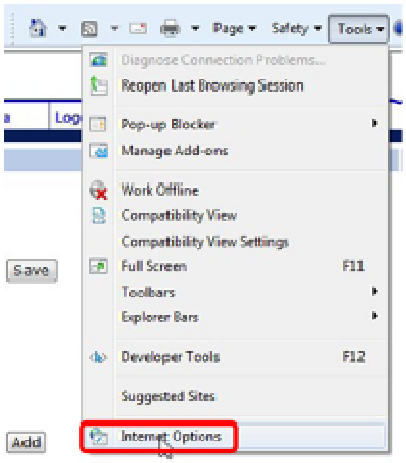
4.) If prompted to confirm the uninstall, click **Yes**.

7.5 Appendix E: Deleting Temporary Internet Files

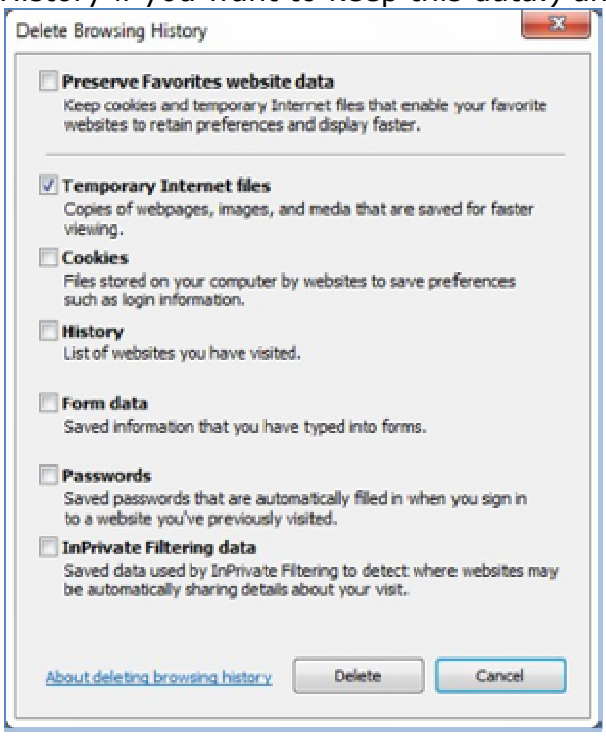
To improve browser performance, it is suggested to clean up the all the files in the Temporary Internet Files. The procedure is as follows:

To delete temporary Internet files

1. In Internet Explorer (IE), from the Command Bar toolbar, click **Tools** and select **Internet Options** from the menu that appears.



2.) In the Internet options dialog, click **Delete**, and in the *Delete Browser History* dialog that appears, select **Temporary Internet files** (Deselect Cookies and History if you want to keep this data.) and then click the **Delete**.



7.6 Appendix F: Contacting DVTel

DVTel, Inc., multiple award-winning market leader in the development and delivery of intelligent security solutions over IP networks. We provide unified solutions leverage existing network infrastructure while providing unmatched levels of flexibility, scalability, cost-effectiveness—all backed by superior customer support.

To contact us:

CORPORATE HEADQUARTERS **DVTel, Inc.** 65 Challenger Road Ridgefield Park, NJ 07660 201.368.9700 Fax: 201.368.2615 Order Fax: 201.712.0343 info@dvtel.com	**ASIA PACIFIC REGION** **DVTel** 111 North Bridge Road, #27-01/02 Peninsula Plaza, Singapore 079098 +65 6389 1815 Fax: +65 6491 5660 info@dvtel.com
ANZ AND THE PACIFIC ISLANDS **DVTel** 37 Victoria Street Henley Beach SA 5022 T +61 8 8235 9211 F +61 8 8235 9255 M +61 419 850 166 info@dvtel.com	**EMEA** **DVTel UK LTD.** 7 Lancaster Court Coronation Road High Wycombe, HP12 3TD +44 (0) 1494 430240 Fax: +44 (0) 1494 446928 info@dvtel.com
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China **DVTel China** Room 607. Block 3 Zhubang 2000 Office Tower No.98 Balizhuang Xili Chaoyang District Beijing, China 100025 Tel: 86-10-8586-8836 Mobile: +86-13501266857 info@dvtel.com	**DVTel 中国.** 北京市朝阳区八里庄西里98号住邦2000商务中心3号楼607室 100025 座机: +86-10-85868836 手机: +86-13501266857 传真: +86-10-85868815 邮件: info@dvtel.com

To request the latest versions of firmware and software or to download other product-related documents, visit http://www.dvtel.com/support. If you have obtained a login go to our support gateway.

For assistance, email us at support@dvtel.com or phone 1-888 DVTEL 77.

7.7 Appendix G: Accessories

The following are accessories available from DVTel for installation of your DVTel CM-3211-00 IP Indoor Dome Camera. For more information on available options, contact your DVTel sales representative or visit www.dvtel.com to request details on where to get the accessories you need.

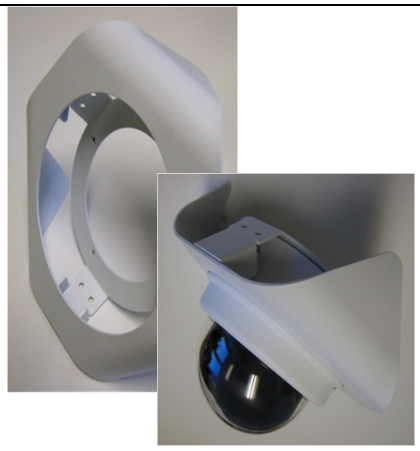
Image	Name	Description
	CM-RCSD-0	CM Series Mini Dome Recessed Mount
	CX-TRIA-0	CM Series Mini Dome Corner Mount
	CM-CAPX-0	CM Series Mini Dome Pendant Mount1

Image	Name	Description
	CX-ARMX-0	Short Arm Bracket
	CX-ARMX-1	Long Arm Bracket
	CX-CRNR-0	Corner Bracket– fits CX-ARMX-0 and CX-ARMX-1
	CX-F125-0	1 1/4" Pole Mount Adaptor - Adapts all pendant cameras to 1-1/4" male pipe threads
	CX-F150-0	Adapts all pendant cameras to 1-1/2" male pipe threads
	CX-F150-1	Pendent Mounting Adapter Ring - Adapts all pendant cameras to common legacy 1-1/2" female pipe mounts. Fits DVTel legacy mounts - many others

Image	Name	Description
	CX-PIPE-0	Short Pipe - Straight tube (9.8 inches) for pendant mount
	CX-PIPE-1	Long Pipe - Straight tube (19.7 inches) for pendant mount
	CX-PLBX-0-Pole-Mount-Box	Pole Mount Box fits CX-ARMX-0 and CX-ARMX-1

Image	Name	Description
	CX-POLE-0	Pole Mount Bracket fits CX-ARMX-0 and CX-ARMX-1
	CX-WLBX-0	Wall Mount Box fits CX-ARMX-0 and CX-ARMX-1